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U. S. DEPARTMENT OF AGRICULTURE.

REPORT FOR JANUARY, 1905.

NEW JERSEY SECTION  
OF THE  
CLIMATE AND CROP SERVICE  
OF THE  
WEATHER BUREAU.

IN COOPERATION WITH THE  
NEW JERSEY STATE WEATHER SERVICE.

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

UNDER DIRECTION OF  
WILLIS L. MOORE,  
CHIEF U. S. WEATHER BUREAU,

BY

EDWARD W. McGANN,  
SECTION DIRECTOR.



ATLANTIC CITY, N. J.:  
WEATHER BUREAU OFFICE.  
FEBRUARY 20th, 1905.

MONTHLY MEAN ISOTHERMS AND PREVAILING DIRECTION OF WIND, JANUARY, 1905





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATE AND CROP SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION.

EDWARD W. McGANN, Section Director.

VOL. XVIII.

ATLANTIC CITY, N. J.

No. 1.

## UNRELIABLE WEATHER FORECASTING.

About this time of the year farmers are wont to receive almanacs from various sources, and in them find forecasts for the weather of each month of the year. Dire are some of the predictions therein contained, and to read them and depend upon them the farmer would be in constant anxiety on account of coming storms and disasters. And many farmers do believe in such trash and go so far as to set their work to time with the various predictions made in the patent medicine almanac or some other one of like character. Nowadays few farmers believe in the signs of the zodiac, although we still occasionally run across a man who plants his potatoes in the dark of the moon or plans his operations according to one or other of the "signs." Needless to say that there is no truth or value in these signs. They are wholly mythical, and farmers should know this and base their operations on good common sense rather than superstition.

Willis L. Moore, chief of the government weather bureau at Washington, declares that the farmers' almanacs do much harm. Scientists hope that some day it may be found possible to correctly predict weather changes in advance for every month of the year, but this time is not yet, and meanwhile the farming communities should be taught that long range forecasters, however well meaning, are almost invariably frauds and imposters so far as the value of their predictions is concerned. It is the opinion of the leading meteorologists of the world that the public interests are injured by the publication of so-called long range forecasts, especially such as relate to severe storms, floods, droughts and other atmospheric phenomena of a dangerous or damaging character, and the persistent efforts of certain men to foist their predictions upon the public for personal gain, have reached such proportions that it is deemed advisable fairly and temperately to counteract the influence of those who it is believed are preying upon the credulity of the public.

Some of these men are doubtless honest, but apparently through ignorance attach undue importance to storms that may accidentally coincide in time or occurrence with certain relative positions of the planets, or with changes in the phases or positions of the moon, or with periods of increase or decrease in sunspots or apparent variations in solar intensity. They may

believe that they have discovered a physical law or meteorological principle that has not been revealed to astronomers, meteorologists, or any other class of scientific investigators; but the publication of predictions that, by reason of their absolute inaccuracy, are calculated to be injurious to agricultural, commercial, and other industrial interests, throws a serious doubt upon the honesty of their purpose and upon their asserted disinterested devotion to the public welfare. Such publications bring the science of meteorology into disrepute and cannot, therefore, be made in response to a desire to advance that science along useful lines, and they retard the work of the honest investigator through whose efforts alone can gains be made in a fundamental knowledge of the causation of weather that will justify forecasts for a month or season in advance.

The seasons come and go with wondrous fidelity, and it is possible for any man of experience to figure pretty closely what work can be done in each month of the season, but it is impossible to foretell great storms or disasters months ahead of their occurrence, and it is well that this is so for a majority of the people. The wise man is he that goes on with his work undaunted by the dire predictions of the alleged weather prophet who makes money by his predictions based upon the vagaries of his own vivid imagination. In planning for the work of the year we can afford to figure that weather conditions will prove favorable and consider it most important to guide our schemes and operations by the teachings of experience and exact science. We have yet to find a firm believer in signs of the zodiac and almanac predictions who is an educated, successful, business-like farmer. The fellows who are ever fearing disaster and guiding their affairs by signs are the ones who are everlastingly complaining of bad luck and hard times. —*The Farmers' Review*.



Along about the last end of every fall some ornery fellow without much to do gets yarns published in the papers about what a mild winter is coming on. He knows it because the crabs are burrowing in the mud only a few inches and because the squirrels haven't laid in a big winter supply of nuts. That fellow talked and wrote like that a year ago. He lied. He did it again this year and the weather so far has been bad enough to keep him in the Ananias class for his prediction on the whole season. He should be deported to the Arctic zone or some other place where he couldn't deceive truthful papers into medium weight underwear and pneumonia.—*Home News*.



Monday, January 9, was the sixty-ninth anniversary of the beginning of the great snow storm of 1836 which reached a depth of over three feet inside of two days. It began with rain, turning to hail, and snow followed. The snow fall of that memorable winter began on November 20, 1835, and though much of it passed off about Christmas, during a thaw, that which fell after January 9, reached a depth of over seven feet, and most of the winter grain was smothered. Snow lasted until May.—*Sussex Register*.

# METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF JANUARY, 1905.

## TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State, 27.0°, is 3.0° below the normal, and 3.8° above the mean for the corresponding month of 1904.

The means for the various districts were as follows: The Highlands and Kittatinny Valley, 23.2°; Red Sand Stone Plain, 26.7°; Southern Interior, 28.8; Sea Coast, 28.8.

The highest monthly mean was 30.6°, at Cape May C. H., Cape May County, and the lowest, 20.8°, at Layton, Sussex County.

The highest temperature recorded at any station was 60°, at Bridgeton, Cumberland County, and Friesburg, Salem County, on the 1st, and the lowest, 16° below zero, at Layton, Sussex County, on the 31st.

The normal temperature for the month is 30.0°. The following table shows the mean temperature for the State for the month of January since 1887:

1887.....28.4	1896.....28.6
1888.....25.4	1897.....29.0
1889.....36.2	1898.....32.6
1890.....41.3	1899.....30.1
1891.....34.2	1900.....32.3
1892.....29.8	1901.....30.4
1893.....21.6	1902.....28.4
1894.....34.2	1904.....30.4
1895.....28.1	1904.....23.2
	1905.....27.0

## PRECIPITATION, IN INCHES.

The average precipitation for the month, including melted snow, for all (46) stations, was 4.18, which is 1.09 above the average for the corresponding month of 1904.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 5.25; Red Sand Stone Plain, 4.09; Southern Interior, 3.50; Sea Coast, 4.04. The greatest amount recorded at any station was 7.13, at Charlotteburg, Passaic County, and the least, 2.68, at Trenton, Mercer County. It was above the normal in the Central and Northern, and below in portions of the Southern sections, the greatest excess being in the Highlands and Kittatinny Valley.

The snowfall was decidedly above the average in all sections. The average for the State, 21.3, is 4.6 above that for the corresponding month of 1904. The following were the averages for the various sections: The Highlands and Kittatinny Valley, 32.0; Red Sand Stone Plain, 20.9; Southern Interior, 16.6; Sea Coast, 20.7.

The departure from the normal for the month, as determined by a comparison of current values of 31 stations having records of ten or more years, with their normals, is +0.46. The following table shows the total precipitation for the State, for the month of January since 1887:

1887.....3.87	1896.....1.66
1888.....4.77	1897.....2.80
1889.....5.68	1898.....4.20
1890.....2.29	1899.....4.01

1891.....6.57	1900.....3.85
1892.....5.15	1901.....2.52
1893.....3.04	1902.....3.28
1894.....2.34	1903.....3.90
1895.....4.66	1904.....3.09
	1905.....4.18



## MISCELLANEOUS PHENOMENA.

### DATES OBSERVED.

*Mock Suns.*—9th, Layton; 27th, Vineland, Cape May C. H., Atlantic City.

*Hail.*—3d, Dover, College Farm, Woodstown; 3d, 6th, 11th, Phillipsburg; 3d, 11th, 12th, Somerville; 3d, 14th, Hightstown; 4th, 11th, Cape May.

*Sleet.*—3d, 6th, 11th, 12th, Phillipsburg; 3d, 6th, Englewood; 3d, 6th, 11th, 12th, Bergen Point; 3d, 4th, 6th, Plainfield; 3d, 6th, 24th, Elizabeth; 3d, 5th, 11th, 12th, Somerville; 3d, 12th, Lambertville; 3d, 11th, College Farm, Hightstown, Indian Mills; 3d, 4th, Cape May, Morestown; 3d, 7th, 11th, 25th, Sandy Hook; 3d, Asbury Park.

*Fog.*—2d, 12th, Phillipsburg; 12th, Bayonne, Plainfield; 2d, 3d, 22d, Trenton; 3d, Beverly, Vineland; 12th, Asbury Park.

*Lunar Halo.*—18th, 21st, Indian Mills; 18th, 19th, 22d, Trenton; 18th, Morestown; 19th, Asbury Park; 20th, Cape May C. H.; 17th, 22d, Atlantic City.

*Solar Halo.*—11th, Oceanic; 21st, 27th, Cape May C. H.; 27th, Atlantic City, Layton, Vineland.

Snow was quite general on the 3d, 4th, 8th, 13th, 24th, 25th and 30th.

### WIND AND WEATHER.

The prevailing direction of wind was from the northwest. The average number of days on which precipitation equalled 0.01 was 9. The average number of clear days was 12; partly cloudy 9, and cloudy 10.

### WEATHER AND CROPS.

The ground was bare of snow in the Central and Northern sections from the 16th to the 24th, but no injurious thaws occurred. Wheat, rye, and grasses were in good condition. In the Southern Section injurious thawing and freezing occurred on the 10th, 12th, 13th, 17th and 23d, but no serious injury was done, except in portions of Cumberland County, where the wheat was damaged somewhat. Fruit trees in all sections were dormant during the month.



## OBSERVERS' NOTES.

Phillipsburg.—2d, dense fog during the day; trees heavily coated with ice on 12th; severe northwest gale on the 26th.

D. W. SMITH.

Plainfield.—The heavy snowstorm of 24th and 25th was the most severe of the present winter. The average depth was 13.0 inches, but owing to the high winds was badly drifted. All trolley lines were brought to a standstill, and some abandoned. Railway travel was greatly interrupted. The coldest day was the 7th, with a mean of 7°.

JOHN NEAGLE.

Sandy Hook.—The storm of the 24th and 25th was very

[CONTINUED ON PAGE 8.]



## Climatological Data for New Jersey, January, 1905.

Stations.	Counties.	Elevation, feet, Above Sea Level.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.					Sky.				Prevailing direction of wind.	Observers
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Days with .01 or more.	Number of clear days.	Number partly cloudy days.	Number cloudy days.		
The Highlands and Kittatinny Valley.																				
Layton.....	Sussex.....	550	3	20.8	.....	51	1-2	-16	31	38	5.50	.....	2.30	27.5	6	21	1	9	sw.	Warren C. Hursh.
Sussex.....	Sussex.....	442	10	23.6	-2.7	53	1	-12	31	31	6.59	+3.91	3.00	40.5	8	17	5	9	w.	Prof. W. H. Seeley.
Newton.....	Sussex.....	673	25	23.0	-2.7	51	1	-12	31	29	6.05	+2.58	2.40	35.0	8	15	9	7	n.	Prof. Chas. J. Majory.
Blairstown.....	Warren.....	351	10	23.6	-3.4	53	1	-10	31	31	4.89	+1.99	2.40	34.4	8	15	9	7	w.	R. D. Huff.
Belvidere.....	Warren.....	289	14	23.9	-2.7	57	1	-7	31	29	5.95	+2.97	2.35	30.5	7	20	2	9	.....	Samuel J. Hixson.
Charlottesville.....	Passaic.....	719	12	23.2	-4.0	53	1	-13	5	36	7.13	+3.78	3.85	7	8	13	8	5	nw.	G. S. Briggs.
Dover.....	Morris.....	575	19	22.4	-4.0	51	1	-6	31	29	6.46	+1.95	2.60	31.6	8	6	9	16	w.	William C. Harris.
Chester.....	Morris.....	560	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss Louise DeCamp.
Phillipsburg.....	Warren.....	196	1	25.0	.....	54	1	-2	31	25	4.64	.....	1.64	24.5	13	15	5	11	w.	D. W. Smith.
Average for District.....				23.2	-3.3	.....	.....	.....	.....	.....	5.25	.....	.....	32.0	8	16	6	9	w.	.....
The Red Sand Stone Plain.																				
Paterson.....	Passaic.....	110	29	27.8	-0.8	54	1	2	26	22	5.03	+0.69	1.75	22.4	10	9	14	8	nw.	H. A. Probert.
River Vale.....	Bergen.....	70	13	23.4	-4.8	50	1	-15	31	40	5.31	+1.55	1.50	24.0	9	20	4	7	nw.	A. C. Holdrum.
Englewood.....	Bergen.....	135	15	26.4	-1.7	53	1	-3	26	27	4.17	+0.13	0.93	22.0	10	8	10	13	nw.	William C. Tucker, C.E.
Newark.....	Essex.....	140	13	26.6	-2.5	53	1	-1	26	23	3.67	-0.16	1.51	15.1	11	9	13	9	nw.	Prof. G. C. Sonn.
South Orange.....	Essex.....	200	34	25.6	-3.1	52	1	-1	26	25	4.24	+0.08	1.50	21.5	10	13	7	11	n.	W. J. Chandler, M.D.
New York City.....	New York.....	314	35	27.5	-3.4	52	7	0	26	25	3.93	-0.11	1.28	19.3	12	9	9	13	w.	U. S. Weather Bureau.
Bayonne.....	Hudson.....	50	13	26.9	-3.0	51	1	1	26	23	4.17	+0.99	1.40	23.7	9	11	10	10	nw.	John H. Eadie.
Bergen Point.....	Hudson.....	37	7	26.4	-5.4	53	1	-1	26	24	3.65	-0.59	1.00	21.7	8	9	11	11	nw.	Dr. W. H. Mitchell.
Plainfield.....	Union.....	100	13	25.8	-3.2	52	1	0	26	26	4.23	+0.48	1.56	18.3	10	6	16	9	sw.	John Neagle.
Elizabeth.....	Union.....	33	24	27.8	-2.0	52	1	2	26	26	3.80	-0.53	1.32	.....	7	17	0	14	sw.	J. B. Drake.
Somerville.....	Somerset.....	76	20	25.6	-2.3	51	1	-1	31	26	4.65	+0.89	1.75	19.5	10	11	5	15	nw.	Peter Hardcastle
Flemington.....	Hunterdon.....	187	7	28.1	-1.4	55	1	-4	31	34	3.37	-0.13	1.69	?	9	14	7	10	n.	H. E. Deats.
Lambertville.....	Hunterdon.....	95	16	27.2	-2.5	56	1	-2	31	28	3.60	-0.46	1.62	18.5	8	16	6	9	nw.	William R. Bowne.
New Brunswick.....	Middlesex.....	61	46	27.1	-3.3	53	1	0	31	29	3.75	-0.07	1.24	15.3	9	12	13	6	nw.	Charles V. Meyers.
College Farm.....	Middlesex.....	100	8	26.8	-3.4	53	1	-1	26	32	3.50	+0.62	1.45	?	10	12	7	12	ne.	Miss J. A. Voorhees.
Average for District.....				26.7	-2.4	.....	.....	.....	.....	.....	4.09	+0.25	.....	20.9	9	12	9	10	nw.	.....
The Southern Interior.																				
Hightstown.....	Mercer.....	85	12	27.5	-2.2	52	1	-2	31	30	4.78	+1.58	1.49	19.5	9	10	5	16	sw.	C. M. Norton.
Imlaystown.....	Monmouth.....	106	17	27.7	-4.0	56	1	0	26	24	3.58	-0.05	1.62	12.2	11	11	14	6	n.	F. C. Price, M.D.
Lakewood.....	Ocean.....	54	3	28.4	.....	59	2	0	26	23	3.88	.....	1.47	20.5	8	14	10	7	nw.	C. A. Roe.
Indian Mills.....	Burlington.....	76	3	28.4	.....	58	1	0	29	33	3.54	.....	1.40	14.6	12	13	10	8	nw.	James Armstrong
Trenton.....	Mercer.....	60	28	31.3	.....	58	1	1	26	22	2.68	-0.87	1.40	16.0	4	4	19	8	sw.	E. R. Cook.
Beverly.....	Burlington.....	30	19	27.9	-3.0	58	1	1	26-31	29	3.26	-0.52	0.88	11.6	11	10	12	9	w.	C. F. Richardson
Rancocas.....	Burlington.....	68	15	.....	.....	.....	.....	.....	.....	.....	3.05	.....	1.25	9.7	11	12	8	11	nw.	Spencer Haines.
Moorestown.....	Burlington.....	71	30	27.7	-2.5	51	1	0	31	27	2.87	-0.93	1.10	10.9	13	10	4	17	nw.	John C. Bensus
Philadelphia, Pa.....	Philadelphia.....	.....	35	29.8	-2.3	58	1	6	26	24	3.12	-0.16	1.01	11.6	13	7	9	15	nw.	U. S. Weather Bureau
Clayton.....	Gloucester.....	126	7	27.3	-4.5	57	1	-3	31	32	3.02	-0.22	1.25	22.0	8	8	13	7	nw.	W. T. Wilson.
Vineland.....	Cumberland.....	118	32	28.2	-3.4	57	1	-3	31	32	3.64	-0.77	1.39	16.2	10	14	10	7	sw.	Alfred Chalmers
Bridgeton.....	Cumberland.....	30	17	29.8	-4.6	60	1	0	31	30	3.28	-0.09	1.23	13.5	8	18	5	8	nw.	Henry A. Jorden.
Woodstown.....	Salem.....	16	3	.....	.....	.....	.....	.....	.....	.....	3.47	.....	1.18	17.0	9	8	16	7	nw.	W. D. Dickinson.
Salem.....	Salem.....	16	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Wm. J. Bickett.
Friesburg.....	Salem.....	143	11	28.8	-5.0	60	1	-1	31	30	3.24	+0.26	1.20	13.4	11	9	12	10	w.	H. C. Perry.
Canton.....	Salem.....	24	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Markill.
Toms River.....	Ocean.....	33	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Fred. G. Bunnell.
Tuckerton.....	Ocean.....	23	7	28.9	-3.1	57	2	-1	5-29	37	4.56	+1.14	2.00	18.5	10	12	8	11	nw.	F. R. Austin.
Pleasantville.....	Atlantic.....	26	3	.....	.....	.....	.....	.....	.....	.....	3.86	.....	2.68	?	8	14	10	7	nw.	Kenneth Allen.
Woodbine.....	Cape May.....	43	12	29.6	-2.2	58	1-6	3	26	30	2.85	-0.26	1.00	20.5	8	17	9	5	nw.	H. L. Sabsovich.
Cape May C. H.....	Cape May.....	19	16	30.6	-4.5	59	1	4	26	28	3.80	+0.44	1.50	22.5	8	12	10	9	nw.	L. T. Garretson.
Average for District.....				28.8	-2.7	.....	.....	.....	.....	.....	3.50	+0.01	.....	16.6	10	11	10	9	nw.	.....
The Sea Coast.																				
Sandy Hook.....	Monmouth.....	14	1	27.2	.....	49	1	0	27	28	3.21	.....	1.05	22.0	10	9	10	12	w.	Arthur E. Jewell.
Oceanic.....	Monmouth.....	16	17	28.0	-4.7	54	1	0	5-26	28	3.52	-0.67	1.07	13.7	8	11	14	6	nw.	Rev. S. W. Knipe.
Asbury Park.....	Monmouth.....	22	15	29.0	-3.2	56	1	0	26	24	4.91	+1.32	1.92	22.6	9	12	6	13	nw.	B. H. Ober.
Atlantic City.....	Atlantic.....	53	30	29.5	-3.0	59	1	5	26	23	4.74	+0.94	2.75	22.3	12	11	5	15	nw.	U. S. Weather Bureau
Cape May City.....	Cape May.....	11	10	30.4	-4.0	57	1	7	26	24	3.80	-0.05	1.60	23.0	10	10	13	8	.....	U. S. Weather Bureau.
Average for District.....				28.8	-4.2	.....	.....	.....	.....	.....	4.04	+0.18	.....	20.7	10	11	10	11	nw.	.....

Letters of the alphabet denote the number of days missing from the record.

\*\* Not considered; received too late.

\* Thermometers other than standard.

† Trace.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.



Maximum and Minimum Temperatures for New Jersey, January, 1905.

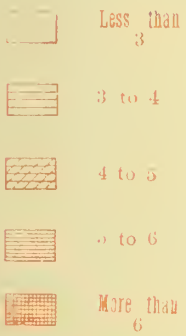
[illegible]

$+ = -13$	$\times = -14$	$\div = -16$	$\parallel = -12$	$\# = -10$	$- = -15$
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# TOTAL PRECIPITATION, JANUARY, 1905.

Scale of Shades Inches



## Daily Precipitation for New Jersey, January, 1905.

Stations.	Day of month.																															Total.	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
The Highlands & Kittatinny Val.																																	
Layton.....		*	.60			*	2.30					.60										.20			1.80							5.50	
Sussex.....	.24	.80				*	1.70					.60									*	.15		*	3.00							6.59	
Newton.....		.60				.15	1.95					.70										.15			2.50							6.05	
Blairstown.....		.60				.05	1.18			.05		.41									*		.20	2.40								4.89	
Belvidere.....		.66				.14	2.35			.04		.41									*	.05		2.30								5.95	
Charlotteburg.....		.80				*	2.85					.70									*	.12		*	2.66				†			7.13	
Dover.....	.18	.40				*	2.60					.78										.10										6.46	
Chester.....																									2.40								
Phillipsburg.....	.03	.72				.29	1.64			.02	.06	.56										.04		.13	1.07	.03		†		.05		4.64	
The Red Sand Stone Plain.																																	
Paterson.....	.03	.47	.27			.27	1.75	†		†	†	.82		†							.02	.10		.04	1.26							5.03	
River Vale.....		.20	.80			.53	.05					.68		†								.30		.30	1.50	.30						5.31	
Englewood.....		.27	.92			.37	.93				.03	.47		†								.03		.19	.93					.03		4.17	
Newark.....	.01	.25	.20			1.14	.37			†	.05	.71									.02	.02		.20	.70			†				3.67	
South Orange.....		.30	.20			†	1.30	†			†	.75										.05		†	1.60			†	.02			4.24	
New York City.....	.01	.33	.75	†		.45	.88			.02		.50		†							.01	.02		.17	.78					.01		3.93	
Bayonne.....	.01	.15	.80			.23	.78	†		†	†	.70		†							†	.05		.05	1.40			†	†			4.17	
Bergen Point.....	†	.29	.70			.22	.50			†	†	.72		†								†	.02		.15	1.05			†			3.65	
Plainfield.....	†	.20	.32			*	30	1.26	†	†	†	.81		†							.01	.01		.05	1.25			†	†	.02		4.23	
Elizabeth.....	†		.65				1.32					.83																				3.80	
Somerville.....	†	.22	.05			.10	1.75	†			†	.80									*	.03		.05	1.60					.05		4.63	
Flemington.....	.02	.10				*	10	1.69				.76		†							†		.05	.50	.10					.05		3.37	
Lambertville.....	†	.39					1.62				†	.72		†								.02		.03	.76			†		.06		3.60	
New Brunswick.....	†	.21	.32			.06	1.24	†			†	.70		†								†		.10	1.01			†	.05		.06		3.75
College Farm.....	.03	.10	.09			.15	1.11				†	.73									†	†		.08	1.45	.04					.02		3.80
The Southern Interior.																																	
Hightstown.....		.40	.35			.49	1.49				*	.70										.05			1.20						.10	4.78	
Imlaystown.....	.20	*	.36			*	1.62					.48	.01	†								.02		.15	.62							3.58	
Lakewood.....		*	.56			*	1.14					.48		†										.05	1.47					.18		3.88	
Indian Mills.....	.07	.13	.25			*	1.40				*	.53		.04								.05		*	.91					.16		3.54	
Trenton.....	†	†	†				.68	†	†	†	.15	.45	†	†									†	†	1.40					†		2.68	
Beverly.....	.02	.28	.17			.34	.88				†	.72		.03								.04		.05	.60					.13		3.26	
Rancocas.....	†	.21	.10			.75	.50				.25	.50		.02								.02		.05	.50					.15		3.02	
Moorestown.....	.01	.16	.09			.10	1.01				.02	.71		.01								.03		.03	.47	.05				.18		2.87	
Philadelphia, Pa.....	.01	.34				.81	.30	†			.08	.58	†	.03								.03		.17	.74			.01	.07		*	3.13	
Clayton.....	.02	.14	.30									.61											.20	1.25						.50		3.02	
Friesburg.....	*	*	.20				1.20				*	.59											.01		†	.80					.40		3.24
Canton.....																																	
Vineland.....	†	.18	.15			*	1.39				*	.44		.03										*	1.00					.45		3.64	
Woodstown.....	.08	.16				.05	1.18					.60												.60	.80					.10		3.57	
Bridgeton.....		.15				*	1.23					.55		.05										.10	.60					.60		3.22	
Salem.....																																	
Toms River.....																																	
Tuckerton.....	†	.05	.65	.05		*	1.08					.38		.05										*	2.00					.30		4.56	
Pleasantville.....	.01	.11	.06				.46					.24		†										*	2.68					.20		3.80	
Woodbine.....		.30	.25			.10	.10					.40												*	1.20					.50		2.80	
Cape May C. H.....	†	.30	.20			.03	.69				†	.53		.05										†	1.50					.50		3.80	
The Sea Coast.																																	
Sandy Hook.....	†	.27	.56			.05	.48	†			†	.53	.02	†									.03		.20	1.05	†	†	†		.02		3.2
Oceanic.....	†	.18	.60			.05	1.07					.63		†									.04		.05	.85					.05		3.5
Asbury Park.....	†	.14	1.28				.93				†	.51		.02										.01	1.92					.08		4.9	
Atlantic City.....	.03	.26	.15			.20	.49			.03	.49	†	.03											.07	2.68					†		4.7	
Cape May City.....	.01	.20	.15			.01	.76				†	.50		.05										.02	1.60					.50		3.8	

\* Precipitation included in that of following day.

† Trace, when precipitation is less than 0.01 inch.

[CONTINUED FROM PAGE 4.]

severe, the wind varying between north and east, and recording a maximum velocity of seventy-five miles per hour, and averaged fifty miles per hour between 8 A. M. and 8 P. M. on 25th.

ARTHUR E. JEWELL.

Dover.—One of the most severe storms that ever visited this section occurred on the 24th and 25th. The snowfall was from 24 to 30 inches deep, and was accompanied by intensely cold weather and high north to northwest winds. The snow was drifted in places, from 10 to 15 feet deep. All roads were blocked and travel was brought to a standstill, and business suspended for three days.

W. C. HARRIS.

Elizabeth.—Very severe storm on 25th. Steam and trolley railroads blocked and traffic interfered with. Public schools

closed 25th and 26th owing to immense snowdrifts.

W. M. OLIVER.

Beverly.—Navigation on Delaware River closed by ice during the entire month.

C. F. RICHARDSON.

Vineland.—A very well-defined solar halo was observed a 12, noon, 27th; at 12.35 P. M. there were five Mock Sun visible.

ALFRED CHALMERS.

Tuckerton.—The total snowfall for the month, 18.5 inches is the heaviest we have any record of.

F. R. AUSTIN.

Bergen Point.—The principal feature of the month was the storm of the 25th. It was the most severe for several years and almost equalled the blizzard of 1888. All traffic was suspended and the roads badly blocked by immense snowdrifts.

DR. W. H. MITCHELL.



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LNNJ  
U. S. DEPARTMENT OF AGRICULTURE.

REPORT FOR FEBRUARY, 1905.

NEW JERSEY SECTION  
OF THE  
CLIMATE AND CROP SERVICE  
OF THE  
WEATHER BUREAU.

IN COOPERATION WITH THE  
NEW JERSEY STATE WEATHER SERVICE.

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

UNDER DIRECTION OF  
WILLIS L. MOORE,  
CHIEF U. S. WEATHER BUREAU,

BY

EDWARD W. McGANN,  
SECTION DIRECTOR.



ATLANTIC CITY, N. J.:  
WEATHER BUREAU OFFICE.  
MARCH 18th, 1905.

MONTHLY MEAN ISOTHERMS AND PREVAILING DIRECTION OF WIND, FEBRUARY, 1905.



U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATE AND CROP SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION.

EDWARD W. MCGANN, Section Director.

VOL. XVIII.

ATLANTIC CITY, N. J.

No. 2.

## THE INFLUENCE OF SUN SPOTS.

The unexampled cold weather in the Northwestern part of the United States, with temperatures of  $50^{\circ}$  below zero, and with air pressures that forced the mercury in the barometer up to 31 inches, 30 inches representing the normal pressure of the air, in connection with the tremendous spots now traversing the sun, has drawn renewed attention to the question of the relation of sun spot activity to the weather on the earth.

Prof. Frank H. Bigelow, of the United States Weather Bureau, who has made a specialty of the study of solar changes in so far as they affect the weather, has summed up, in a striking manner, what this relationship is so far as modern science is able to determine it. As this subject is Prof. Bigelow's specialty what appears below represents the very latest word on the subject.

To understand Prof. Bigelow's article it should be remembered that the sun is not as it seems to the naked eye—a body without change—but, on the contrary, it is in a state of violent activity and its monthly and yearly life is marked by extraordinary convulsions in the molten and incandescent materials that make up its envelope and its interior.

These convulsions naturally result in marked changes in its radiating energy, and careful examination and studies of the sun, extending over hundreds of years, have resulted in the discovery that these convulsive changes occur within certain regular periods.

There is a period of thirty-five years in which the sun tends to return to like conditions. Then there is an eleven year period, which represents the change from a time of great sun spot activity back to a like condition, and Prof. Bigelow has found near the poles on the sun that there is a three year period.

As variations in the weather on the earth are entirely due to the amount and character of the solar radiation, it can easily be seen when the sun is at a period of greater energy, which is indicated by the presence of huge sun spots, that the amount of radiation received by the earth must be greater than at other times, and in consequence there must be some effect on terrestrial weather.

Prof. Bigelow concludes that at the time of great sun spot activity the earth receives a greater amount of solar radiation, which shows itself in the greater amount of heat received in the tropics. The result of this excess of heat in the tropics brings about a more active state of circulation there, and this causes a more violent and decided drift of cold air from the Polar regions toward the tropics. This is, in a broad way, what we are experiencing this Winter.

It must also be remembered in studying out the meaning of sun spots that the spots are not exactly what they seem. Though they look as if they were very black holes in the sun, as a matter of fact the part that looks black is merely dark by contrast with the more brilliantly glowing surface of the rest of the sun, for the darkest part of the sun spot, it has been

found out by proper observation, is brighter than the brightest calcium light. But it appears dark because the rest of the surface surrounding it is several hundred times brighter than calcium.

The sun spots, when examined carefully, show that they are huge convulsions on an enormous scale beyond any possible measurement with things on the earth, explosive storms with rotary and whirlpool-like characteristics in the more molten and lower parts of the convulsion, and with cyclonic and blast-driven characteristics in the gaseous portion.

To describe what is going on in the sun when a sun spot is visible on its surface is a difficult thing to do in terms of phenomena with which we are familiar on the earth, but perhaps one can get a clear idea of what a sun spot means if you think of a terrific disturbance originating at the bottom of the Atlantic Ocean, finally involving the whole ocean to the surface, and then the air above it to the extreme limits of the atmosphere.

What you would see would be a tremendous abyssmal upheaval of the ocean gradually assuming a whirlpool movement, with huge waves tossed high in the air, and from out whose tempestuous and rotating depths would be projected, as from a volcano, huge masses of water that would reach miles up into the air. Along with this terrific commotion would, of course, go a tremendous disturbance in the air with cloudbursts, tornadoic storms of unexampled magnitude forming and being torn to pieces by the explosive blasts from below and then forming again and whirling until the sea to its lowest depths and the air to its greatest height were all in frightful motion.

Even this does not give you an idea of the tremendous convulsion represented by a sun spot, for one must remember that in the sun the very air is flaming gas, the clouds are of incandescent condensations, the very rain which is seen through the telescopes is composed of molten masses of elements, while the convulsed surfaces and depths of the sun itself are like the caldrons of enormous blast furnaces, or the funnels of volcanoes continually throwing out material with a force and energy absolutely unknown on the earth.

Naturally such terrific convulsions, periodic or otherwise, must have their effect on terrestrial conditions, and it is to get at this relation that Prof. Bigelow and other scientists are at work, for, if the law governing all this can be ascertained, if the probable changes in the solar surface can be predicted and the resulting effects on the earth are known, then it will be possible to forecast the weather for entire seasons, as well as for twenty-four hours in advance.—*Phila. Press.*



## METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF FEBRUARY, 1905.

### TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State,  $23.4^{\circ}$ , is  $7.2^{\circ}$  below the normal, and  $1.4^{\circ}$  below the mean for the corresponding month of 1904, and  $0.2^{\circ}$  below the coldest February, 1895.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $19.9^{\circ}$ ; Red Sand Stone Plain,  $23.2^{\circ}$ ; Southern Interior,  $25.2^{\circ}$ ; Sea Coast,  $25.3^{\circ}$ .

The highest monthly mean was  $27.5^{\circ}$ , at Cape May C. H., Cape May County, and the lowest,  $16.8^{\circ}$ , at Layton, Sussex County. The highest temperature recorded was  $57^{\circ}$ , at Flemington, Hunterdon County, on the 21st, and the lowest,  $18^{\circ}$  below zero, at River Vale, Bergen County, on the 5th. Range for the State,  $75^{\circ}$ .

The normal temperature for the month is  $30.6^{\circ}$ . The follow-



ing table shows the mean temperature for the State for the month of February since 1887:

1887.....33.9	1896.....32.1
1888.....30.6	1897.....32.5
1889.....27.7	1898.....32.7
1890.....39.9	1899.....25.8
1891.....38.0	1900.....31.0
1892.....33.6	1901.....25.4
1893.....30.1	1902.....27.4
1894.....29.7	1903.....33.7
1895.....23.6	1904.....24.8
	1905.....23.4

#### PRECIPITATION, IN INCHES.

The average precipitation for the month (including melted snow), for all (45) reporting stations, was 2.53, which is 0.08 above the average for the corresponding month of 1904.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 1.49; Red Sand Stone Plain, 2.46; Southern Interior, 3.03; Sea Coast, 2.96.

The average depth of snowfall, 7.3, is 1.7 above the average for February, 1904. The average depths for the districts were: The Highlands and Kittatinny Valley, 8.8; Red Sand Stone Plain, 9.7; Southern Interior, 5.5; Sea Coast, 4.6.

The departure from the normal for the month as determined by a comparison of current values of thirty-one stations having records of ten or more years, with their normals, is — 1.58. The following table shows the total precipitation for the State for the month of February since 1887:

1887.....5.24	1896.....6.77
1888.....3.53	1897.....3.61
1889.....2.49	1898.....3.48
1890.....4.17	1899.....6.06
1891.....5.11	1900.....5.30
1892.....1.63	1901.....0.94
1893.....5.73	1902.....6.24
1894.....4.42	1903.....4.87
1895.....1.28	1904.....2.45
	1905.....2.53

#### WIND AND WEATHER.

The prevailing direction of the wind was from the northwest.

The average number of days on which precipitation equalled 0.01 inch was 7. The average number of clear days was 14; partly cloudy, 7, and cloudy, 7.

#### WEATHER AND CROPS.

The month was the coldest we have any record of, the average for the State being 0.2 below the coldest February, 1895. Intensely cold weather prevailed from the 1st to 5th inclusive, when the minima temperatures ranged from 8 in the extreme Southern to 18 below zero in the Northern portions. Zero temperatures and below were also recorded on the 14th, 15th and 16th. During these cold waves, and in fact, during the entire month, the ground was well covered with snow, affording ample protection to wheat, rye and grass. Fruit trees were still dormant, and small bush fruits had suffered no serious injury. In some places peach and pear trees are badly infested with San Jose scale. Owing to the great deficiency of precipitation wells and springs are getting low, the melting snow running off over the frozen ground to the streams.



#### MISCELLANEOUS PHENOMENA.

##### DATES OBSERVED.

*Hail.*—5th, 6th, 9th, Cape May; 6th, 9th, 12th, New York City; 6th, Dover, Somerville, Canton; 6th, 12th, Paterson, Phillipsburg; 12th, Bergen Point; 9th, 12th, Hightstown.

*Sleet.*—5th, 6th, 9th, 12th, 20th, Sandy Hook; 6th, Trenton; 9th, Chester, Tuckerton, Beverly, Canton; 6th, 9th, College Farm, Cape May; 9th, 13th, Sussex; 5th, 9th, 12th, 20th, Elizabeth; 6th, 12th, Paterson, Bergen Point; 6th, 9th, 12th, Englewood, Phillipsburg, New York City, Bayonne; 6th, 9th, 12th, 13th, Somerville; 12th, Newark; 9th, 12th, 13th, 20th, Moorestown.

*Lunar Halo.*—11th, 19th, Beverly, Indian Mills; 19th, 20th, Chester; 11th, 17th, Bergen Point; 16th, 19th, Phillipsburg, Bayonne; 19th, Newark, Sandy Hook; 13th, 27th, Cape May C. H.; 16th, 19th, 20th, New York City; 11th, 16th, 19th, Atlantic City; 16th, 19th, 20th, Philadelphia, Pa.

*Solar Halo.*—8th, Phillipsburg; 9th, Indian Mills; 19th, Bergen Point; 3d, 8th, 27th, Cape May C. H.; 8th, 21st, Atlantic City; 3d, 18th, 17th, 27th, Philadelphia, Pa.

*Fog.*—5th, 9th, 12th, 20th, 25th, Sandy Hook; 12th, Englewood; 6th, 12th, 13th, 20th, Atlantic City, Cape May; 26th, Tuckerton.



Reports received from stations of the River and Flood Service of the U. S. Weather Bureau, located on the Delaware, Passaic, Pequannock and Ramapo Rivers, for the month of February, 1905:

Stations.	County.	River.	Total Precipitation.	Total Depth of Snowfall.	Remarks.
Phillipsburg.....	Warren...	Delaware....	2.18	11.6	River closed by ice.
Trenton.. ..	Mercer.....	Delaware....	1.04	8.5	"
Chatham.. ..	Morris.....	Passaic.....	2.03	7.6	"
Pompton Plains..	Morris.....	Pequanock...	2.19	9.0	"
Mahwah.....	Bergen.....	Rampo.....	1.95	7.2	"
Little Falls.....	Passaic.....	Passaic.....	1.68	4.8	"



#### OBSERVERS' NOTES.

Moorestown.—The depth of snow on ground at close of month was from two to six inches. Meadow larks observed on the 18th, Turkey Buzzard on the 24th, "Peeter," "Peeter," heard on the 26th. The mean temperature for the month, 24.2°, is one degree below the mean for the corresponding month of 1904. The coldest February since 1860 was 21.6° in 1885.

JOHN C. BEANS.

Beverly.—River navigation entirely suspended during the month; ice thirteen inches thick was harvested from the Delaware River.

C. F. RICHARDSON.

Cape May.—Large flocks of geese flying north observed on the 27th.

GEO. L. LOVETT.

Imlaystown.—At close of month, the depth of snow varies from three inches to three feet; fields generally bare.

F. C. PRICE, M.D.

Phillipsburg.—From November 17th to February 28th, inclusive, the minimum temperature was above 32° on only two days. Winter grain was well covered with snow during the extremely cold weather.

D. W. SMITH.

Lambertville.—The Delaware River was closed by ice during entire month. Ice of sufficient strength to admit of teams crossing, on the 16th.

WILLIAM R. BOWNE.

Dover.—A very cold February; deep snow and no thawing; mean temperature 5.5° below the normal, and precipitation 2.43 inches below the average for the month.

W. C. HARRIS.

Chester.—The roads are badly blocked by snowdrifts from three to five feet deep.

MISS LOUISE DECAMP.

Sandy Hook.—Ice in Sandy Hook Bay broke away from the shore on the 22d, and about one-third passed out to sea between this date and the 28th.

ARTHUR E. JEWELL.

## Climatological Data for New Jersey, February, 1905.

Stations	Counties	Elevation, feet, Above Sea Level.	Length of record years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing direction of wind.	Observers	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from normal.	Greatest in 24 hours.	Total snowfall (unmelted.)	Days with .01 or more.	Number of clear days.	Number partly cloudy days.			Number cloudy days.
The Highlands and Kittatinny Valley.																				
Layton	Sussex	550	3	16.8	.....	45	21-25	-17	5	46	0.87	.....	0.40	5.5	4	18	6	4	w.	Warren C. Hursh.
Sussex	Sussex	442	10	19.4	-6.4	45	21	-12	5	37	0.85	-2.84	0.40	8.5	4	16	6	6	w.	Prof. W. H. Seeley.
Newton	Sussex	678	25	18.7	-9.8	42	21-25	-9	5	33	1.67	-1.87	0.56	8.5	6	17	6	5	nw.	Prof. Chas. J. Majory.
Blairstown	Warren	351	10	20.2	-6.7	47	21	-8	5	38	0.70	-2.11	0.30	7.0	3	16	4	8	w.	R. D. Huff.
Belvidere	Warren	280	14	21.2	-5.7	51	21	-6	4-5	35	1.49	-2.74	0.57	11.5	5	18	1	9	.....	Samuel J. Hixson
Charlottesville	Passaic	719	12	21.0	-4.8	43	25-27	-6	1	32	2.02	-3.12	0.82	9.0	5	17	6	5	w.	G. S. Briggs.
Dover	Morris	575	19	19.8	-7.5	44	21	-4	5	27	1.75	-2.43	0.98	8.0	5	7	15	6	.....	William C. Harris
Hester	Morris	860	12	21.1	-4.0	49	21	-4	15	30	1.84	-2.51	0.95	9.0	6	13	9	6	w.	Miss Louise DeCamp.
Phillipsburg	Warren	196	1	21.6	.....	47	21	-2	14-16	29	2.20	.....	0.80	11.8	8	16	4	8	w.	D. W. Smith.
Average for District				19.9	-6.8	.....	.....	.....	.....	.....	1.49	-2.80	.....	8.8	5	15	6	6	w.	.....
The Red Sand Stone Plain.																				
Paterson	Passaic	110	29	25.2	-5.3	48	21	4	4-16	25	2.54	-2.09	1.00	8.1	6	11	11	6	nw.	H. A. Probert.
River Vale	Bergen	70	13	19.2	-8.2	42	21	-18	5	38	2.37	-2.73	0.92	16.0	6	24	0	4	nw.	A. C. Holdrum.
Englewood	Bergen	135	15	22.4	-6.1	42	21-22	-2	5	24	3.05	-3.08	1.03	10.5	7	15	5	8	nw.	William C. Tucker, C.E.
Newark	Essex	140	13	23.2	-7.4	44	21	1	5-16	24	2.13	-1.62	0.85	9.8	6	13	9	6	nw.	Prof. G. C. Sonn.
South Orange	Essex	200	34	22.8	-7.0	44	21	2	4-6	29	2.15	-1.99	0.50	10.5	7	19	3	6	n.	W. J. Chandler, M.D.
New York City	New York	314	35	24.6	-6.9	46	21	4	16	27	2.79	-1.01	1.21	7.2	7	11	10	7	nw.	U. S. Weather Bureau.
Bayonne	Hudson	50	13	23.8	-6.0	50	21	0	5	26	2.48	-1.69	1.05	4.7	7	15	6	7	nw.	John H. Eadie.
Bergen Point	Hudson	37	7	23.0	-6.6	45	24	0	21	26	2.66	-2.18	1.09	11.2	6	13	8	7	sw.	Dr. W. H. Mitchell
Plainfield	Union	100	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	John Neagle.
Elizabeth	Union	33	24	24.3	-7.1	48	25	-1	4-5	28	2.58	-1.83	0.93	7	8	15	4	9	w.	J. B. Drake
Somerville	Somerset	76	20	23.1	-7.0	47	21	-5	5	32	1.79	-2.20	0.49	7.0	6	16	3	9	nw.	Peter Hardcastle
Flamington	Hunterdon	187	7	24.3	-2.6	57	21	-6	15	40	2.05	-2.02	0.85	10.0	6	16	6	6	w.	H. E. Deats.
Aubertville	Hunterdon	95	16	22.7	-8.2	47	21	-2	15	34	2.45	-0.86	0.84	12.0	6	14	8	6	nw.	William R. Bowne.
New Brunswick	Middlesex	61	46	24.2	-7.9	53	21	-1	5	31	2.79	-0.85	1.00	10.0	7	15	6	7	nw.	Charles V. Meyers.
College Farm	Middlesex	100	8	22.4	-6.5	47	21	-5	5	30	2.59	-1.46	0.85	8.8	6	13	8	7	nw.	Miss J. A. Voorhes.
Average for District				23.2	-6.8	.....	.....	.....	.....	.....	2.46	-1.69	.....	9.7	6	15	6	7	nw.	.....
The Southern Interior.																				
Hightstown	Mercer	85	12	22.4	-6.8	52	26	-5	5	34	2.34	-1.92	1.14	11.5	7	11	7	10	nw.	C. M. Norton.
Maytown	Monmouth	106	17	24.5	-7.0	46	13-21	-3	5	29	2.69	-1.33	1.08	5.4	7	16	5	7	nw.	F. C. Price, M.D.
Lakewood	Ocean	54	3	24.6	.....	46	25	-3	5	29	3.31	.....	1.26	5.5	6	15	8	5	nw.	C. A. Roe.
Indian Mills	Burlington	76	3	25.4	.....	50	5	-3	5	31	3.82	.....	1.06	7.2	9	15	5	8	nw.	James Armstrong
Perinton	Mercer	60	28	28.2	.....	51	21	3	16	30	2.15	-1.45	0.74	5.0	4	9	12	7	nw.	E. R. Cook.
Severly	Burlington	30	19	21.3	-7.5	52	21	-2	5	31	2.54	-1.39	0.80	5.2	8	13	10	5	nw.	C. F. Richardson
Sanctus	Burlington	68	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Spencer Haines.
Forestown	Burlington	71	30	24.2	-7.7	45	21	-1	5	24	2.79	-1.15	0.98	8.8	8	13	5	10	nw.	John C. Beans
Philadelphia, Pa.	Philadelphia	.....	35	26.3	-6.7	45	21	6	16	25	2.56	-0.81	0.86	7.9	9	12	6	10	nw.	U. S. Weather Bureau
Layton	Gloucester	126	7	23.4	-6.3	49	25	-3	3	34	3.55	-0.84	1.23	3.0	7	8	8	8	w.	W. T. Wilson.
Pineland	Cumberland	118	32	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Alfred Chalmers.
Bridgeport	Cumberland	30	17	26.0	-8.9	50	25	-3	5	30	3.96	-0.38	1.50	2.0	8	14	2	12	nw.	Henry A. Jorden.
Woodstown	Salem	16	3	.....	.....	.....	.....	.....	.....	.....	1.94	.....	0.97	7.0	7	10	14	4	nw.	W. D. Dickinson.
Salem	Salem	16	8	.....	.....	.....	.....	.....	.....	.....	3.44	.....	1.20	.....	7	15	6	7	.....	Prof. Wm J. Bickett.
Hiesburg	Salem	143	11	24.7	-4.8	47	25	-1	4	27	3.45	-0.68	1.15	4.0	7	10	13	5	nw.	H. C. Perry.
Anton	Salem	24	2	.....	.....	.....	.....	.....	.....	.....	3.44	.....	1.20	.....	7	15	6	7	.....	J. H. Markill.
oms River	Ocean	33	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Fred. G. Bunnell.
uckerton	Ocean	23	7	24.8	-5.1	44	13-28	-4	3	32	3.88	+0.13	1.10	3.5	7	12	6	10	nw.	F. R. Austin.
asantville	Atlantic	26	3	.....	.....	.....	.....	.....	.....	.....	2.62	.....	1.10	7	9	13	7	8	.....	Kenneth Allen.
Woodbine	Cape May	43	12	26.6	-4.4	47	13-15	-1	4	27	3.70	-0.61	1.30	2.0	7	11	12	5	e.	H. L. Sabsovich.
Cape May C. H.	Cape May	19	16	27.5	-6.6	47	24	3	4-5	26	2.51	-1.11	0.65	4.0	7	7	12	9	nw.	L. T. Garretson.
Average for District				25.2	-6.8	.....	.....	.....	.....	.....	3.03	-1.05	.....	5.5	7	12	8	8	nw.	.....
The Sea Coast.																				
Andy Hook	Monmouth	14	1	24.3	.....	45	21	4	16	24	2.86	.....	1.08	9.0	7	15	2	11	nw.	Arthur E. Jewell.
ceanic	Monmouth	16	17	24.6	-7.8	44	13	0	16	25	2.95	-1.31	0.84	5.2	6	15	6	7	nw.	Rev. S. W. Knipe.
sbury Park	Monmouth	22	15	25.2	-6.6	43	13-25	2	3	24	1.90	-2.27	0.62	5.3	9	15	5	8	nw.	B. H. Obert.
Atlantic City	Atlantic	53	30	25.6	-8.3	46	12	3	3	29	3.67	+0.34	1.07	1.7	10	10	6	12	nw.	U. S. Weather Bureau
Cape May City	Cape May	11	10	27.0	-8.7	44	12	5	5	28	3.43	-0.35	1.01	1.9	9	10	11	7	nw.	U. S. Weather Bureau.
Average for District				25.3	-9.1	.....	.....	.....	.....	.....	2.96	-0.92	.....	4.6	8	13	6	9	nw.	.....

Letters of the alphabet denote the number of days missing from the record.

\*\* Not considered; received too late.

\* Thermometers other than standard.

† Trace.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.



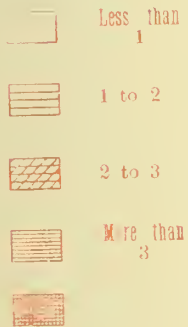
Maximum and Minimum Temperatures for New Jersey, February, 1905.

[illegible]



# TOTAL PRECIPITATION FEBRUARY, 1905,

Scale of Shades- Inches



## Daily Precipitation for New Jersey, February, 1905.

Stations.	Day of month.																															Total.	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
The Highlands & Kittatinny Val.																																	
Layton.....	†					.40			.20				.12							.15			†					†				0.87	
Sussex.....	†					.40			.20				.12							.15			†					†				0.87	
Newton.....						.56			.18			.54	.18							.16									.05			1.67	
Blairstown.....						.30			.20											.20												0.70	
Belvidere.....						.57			.36			.15	.15							.26									†			1.49	
Charlotteburg.....						.68			.36			*	.82							.16									†			2.02	
Dover.....						.30			.30			*	.98							.17												1.75	
Chester.....	.04					.40			.35			.95			.06								†						.04			1.84	
Phillipsburg.....	†	.01				.80			.45	.01		.46	.21		†		†			.23									.03			2.20	
The Red Sand Stone Plain.																																	
Paterson.....	†					1.00			.45	.05		.92	.02		†		†			.10								†				2.54	
River Vale.....						.60			.40			*	.62							.15												2.37	
Englewood.....	.03				.15	1.03			.72			.92	.05		†		†			.15												3.05	
Newark.....	†				.20	.51			.41			.85	.03		†					.13								†				2.13	
South Orange.....	.03					.70			.59			*	.72							.20												2.15	
New York City.....	.02				.15	1.09			.67			.74	.01		†		†			.14								†				2.79	
Bayonne.....	†	.02				1.05			.56	†		.55	.14		†		†			.15	.01		†									2.48	
Bergen Point.....	†	.03				1.09			.68	†		.63	.11							.12									†			2.66	
Plainfield.....									*	.60		*	.82		†					.23												2.58	
Elizabeth.....						.93			*	.60		*	.82		†					.23												2.58	
Somerville.....						.49			.40			.30	.47							.10												1.79	
Flemington.....	†	†				.85			.30			.05	.65		†					.15									.03			2.05	
Lambertville.....	.03					1.06			.61			.21	.50							.23		†										2.45	
New Brunswick.....	†					1.00			.68	†		.25	.63		.04					.15												2.79	
College Farm.....	†	.02				.68			.68			.14	.85		†					.15												4.59	
The Southern Interior.																																	
Hightstown.....		.10				1.14			.50			.20	.20		†					.20								†				2.34	
Imlaystown.....		.11				1.08			.70			*	.60							.20									†			2.69	
Lakewood.....						1.26			.82			.38	.68							.30	.07											3.31	
Indian Mills.....		.60				1.06			.76	.07		.43	.35		†					.40	.03		†									3.82	
Trenton.....	†					.74			.64			.68								.09												2.15	
Beverly.....	.01	.04				.56			.75	†		.80	.13		†					.22	†											2.64	
Rancocas.....																																	
Moorestown.....	†	.05				.98	†		.64	.05		.39	.44		†	†				.18	.03	†										2.79	
Philadelphia, Pa.....	.06	†			.33	.53		.03	.53			.77	.06		†					.20		†	†			†						2.56	
Clayton.....	.30					1.23			.78			.93	.16							.35												3.85	
Friesburg.....		.10				1.10			.65			*	1.15		†					.40												3.45	
Canton.....	.05					1.20			.71			1.05	.04							.38								.05				3.44	
Vineland.....																																	
Woodstown.....	.10					.10			.97	.20										.40												1.94	
Bridgeton.....	.05					1.50			.95			.40	.38							.60												3.96	
Salem.....																																	
Toms River.....																																	
Tuckerton.....		.20				1.10			.78			.55	.73							.40												3.88	
Pleasantville.....	†	.04				.68			1.10	.01		.34	.12		†					.27	.01											2.62	
Woodbine.....		.20			†	1.30			.40			.70	.40		†					.50												3.70	
Cape May C. H.....	†	.40				.65			.48	†		.55	.05		†					.50	†		†									2.81	
The Sea Coast.																																	
Sandy Hook.....	†	.03			†	1.08			.69	.02		.50	.15		†					.33	.06							†				2.86	
Oceanic.....		.04				.84			.81			.42	.70		†					.14												2.95	
Asbury Park.....	†	.03				.55			.62	.01		.20	.28		†	.02				.13	.06											1.90	
Atlantic City.....	.06	.05			.05	1.00		.12	.95			.56	.34		†		†			.43												3.67	
Cape May City.....	.05	.03			†	1.01		†	.78	†		.54	.33		.05					.46		†	†			†		†				3.43	

\* Precipitation included in that of following day.

† Trace, when precipitation is less than 0.01 inch.

4444J  
U. S. DEPARTMENT OF AGRICULTURE.

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REPORT FOR MARCH, 1905.

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NEW JERSEY SECTION  
OF THE  
CLIMATE AND CROP SERVICE  
OF THE  
WEATHER BUREAU.

IN COOPERATION WITH THE  
NEW JERSEY STATE WEATHER SERVICE.

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

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UNDER DIRECTION OF  
WILLIS L. MOORE,  
CHIEF U. S. WEATHER BUREAU,

BY

EDWARD W. McGANN,  
SECTION DIRECTOR.



ATLANTIC CITY, N. J.:  
WEATHER BUREAU OFFICE.

APRIL 21st, 1905.



MONTHLY MEAN ISOTHERMS AND PREVAILING DIRECTION OF WIND, MARCH, 1905.



U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATE AND CROP SERVICE

OF THE

WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION.

EDWARD W. MCGANN, Section Director.

VOL. XVIII.

ATLANTIC CITY, N. J.

No. 3.

## SUN SPOTS AND THE WEATHER.

BY PROFESSOR F. H. BIGELOW.

The prevailing cold weather this winter and similar extreme temperature conditions last year, together with the observed great size and frequency of the spots now prevailing on the sun, suggest the theory that there is some physical connection between these two phenomena.

Yet it is quite erroneous to assume that the relative "coolness" of sun spots causes a lowering of our winter heat in the United States. Students of this subject have, for several decades, found just enough connection between the action of the solar and the terrestrial forces to make them believe that it is possible to work out the laws connecting them. Bruchner's 35-year cycle revealing regular pulses in solar activity, has been traced back for several hundred years with some degree of precision; the 11-year solar sun spot period has been found in several phenomena, and is unquestioned; Bigelow's 3-year cycle is exhibited in the solar prominences and the terrestrial pressures, temperatures, precipitation, magnetic and electric fields; and Bigelow's 26.68 day period, being the time of the average rotation of the solar mass, is also detected in the same elements.

Since the sun, in its great laboratory, is passing through a series of convulsions in long and short periods, irregular as they may be in themselves, the atmospheric conditions on the earth also apparently correspond with them so far as to make it evident that some physical cause is continually operating between the sun and the earth, just as gravitation is always binding these two bodies together.

There can be no doubt that it is some form of radiant energy which traverses the intervening 93,000,000 miles of cosmical space in much the same fashion as wireless telegraphic waves are known to transmit energy over short terrestrial fields.

The details of the problems are complex and the research covers an enormous range of work, but a general outline of our present view may be of value.

The sun is a hot sphere, ranging probably from 6,000 de-

grees at the outer layer to 10,000 degrees near the center. It is a liquid-solid mass, 866,000 miles in diameter, whose average density is 1.43 times that of water, but ranges from a thin liquid at the surface, one-fourth the density of water, to 5.7 times the density of water at the center, which is the same as that making up the mass of the earth.

The sun is a rotating spherical mass, hot and solid near the center, but cooling and thin at the surface, where the liquid changes into gas through explosions such as are manifested in the prominences. The sun is very unlike the earth in the distribution of its temperature. The earth is hot at the tropics because the source of heat is the radiation falling on it from the outside, from the sun, and it is cold at the poles, where the sun effects are at a minimum. The sun, on the other hand, is cooler on its equator than at the poles, because the internal heat works outward in the polar regions more rapidly than on the equator.

As the sun's central heat escapes, it causes the polar regions of the sun to turn backwards, rather than forwards, so that while the equator revolves at the rate of 26.68 days, the polar belts take 29.50 days for one complete revolution.

This heat, in its passage from the interior to the exterior, is connected with numerous vortices and internal movements, due to friction, the reluctance of currents of different temperatures to mix readily, and other physical processes, so that the sun may be described as breathing more or less regularly in the 35-year, 11-year and 3-year periods mentioned, as waves of accumulated energy make their way from the inside to the outside.

Now, on the surface of the sun, we see the effects in two principal symptoms, like the fever flush on the skin of a patient, and there are spots and the prominences or hydrogen flames. There are other marks of solar action, but these two suffice for our illustration. The spots are confined to the equatorial belts and the prominences occur freely in the polar and high latitude zones, as well as in the central zones.

On counting up the frequency of these two solar effects in different latitudes we come upon a striking result. The spots and the prominences in the middle zones vary in the 11-year period, but in the latitudes nearer the poles the 11-year period has nearly disappeared, while the 3-year period has become more pronounced and is even in the lead. The law connecting those two periods with that of the solar rotation has not been discovered, but the relation to a fundamental formula is very suggestive, and we may hope to make some advance at this point of research.

As concerns our weather conditions on the earth, we must consider the spots, the prominences, and the coronas merely as visible symptoms or indications of what is going on in the



interior of the sun. The real energy which corresponds with them is the invisible solar radiation, which traverses the space to the earth, but which can be measured as terrestrial temperature effects, as magnetic force variations, as weather conditions after it has done its work on the circulating atmosphere of the earth.

Much labor has been expended in trying to make out the connection between the weather and the sun spot 11-year period, but there has been only moderate success in that line of research. What has been distinctly found is a close variation between solar and terrestrial action in the 3-year period.

Every three years the pressure and temperature rise and fall annually about a normal value. This action is not uniform over the earth as a whole, for the atmosphere seems to surge up and down between one hemisphere and the other, between the tropics and the poles. When the tropics are warmer, the temperate and polar zones are colder; when the Indian ocean is at low pressure the North American continent is at high pressure. The explanation of how the sun spots affect weather on the earth is about as follows: When the sun is more active it throws out great spots and many prominences, and at the same time retards its circulation in the polar regions; the outgoing radiation of whatever type is more vigorous and falls upon the equatorial regions of the earth; this increases the temperature of the tropics and stirs the circulation of the atmosphere to greater vigor; that is accompanied by a more pronounced down-pouring of cold air from the higher strata upon the continents in high latitudes; thence originate the cold waves and waves of high barometric pressure which over-spread the United States from British America, and produce the cold winter weather.

The sun spots do not directly cool our atmosphere, but rather indicate an increase of heat in the tropics, the resulting circulation carrying an increase of cold air in the temperate zones as a downflow in middle latitudes. The subject is of such general interest as to attract the attention of solar physicists and meteorologists, who are now bending their best efforts to obtaining a practical solution of the problem, with the hope of learning how to make approximate forecasts of the seasons from one year to another.

The leisurely march of the solar action in 3-year periods gives us the ground for such a possible development of practical meteorology. The labor of handling the data, however, is very great, and many students will be required to bring the question to a final solution.



## METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF MARCH, 1905.

### TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State, 39.8°, is 1.5° above the normal, and 2.6° above the mean for the corresponding month of 1904.

The means for the various districts were as follows: The Highlands and Kittatinny Valley, 36.5°; Red Sand Stone Plain, 39.6°; Southern Interior, 41.8°; Sea Coast, 39.8°.

The highest monthly mean was 44.2°, at Bridgeton, Cum-

berland County, and the lowest, 33.5°, at Layton, Sussex County. The highest temperature recorded at any station was 87°, at Belvidere, Warren County, and the lowest, 7° below zero, on the 5th. Range for the State, 94°.

The normal temperature for the month is 38.3°. The following table shows the mean temperature for the State for the month of March since 1887:

1887.....	37.7	1896.....	34.0
1888.....	32.8	1897.....	40.0
1889.....	40.5	1898.....	45.1
1890.....	37.6	1899.....	38.6
1891.....	37.2	1900.....	35.6
1892.....	34.4	1901.....	39.2
1893.....	37.0	1902.....	43.9
1894.....	44.2	1903.....	47.6
1895.....	36.7	1904.....	37.2
		1905.....	39.8

### PRECIPITATION, IN INCHES.

The average precipitation for the month (including melted snow) for all (47) reporting stations, was 3.95, which is 0.52 above the average for the corresponding month of 1904.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 3.76; Red Sand Stone Plain, 3.92; Southern Interior, 4.11; Sea Coast, 3.65.

The largest amount recorded at any station was 5.06, at Indian Mills, Burlington County, and the least, 2.80, at Cape May, Cape May County.

The average depth of snowfall, 2.6 inches, is 1.8 inches below the average for March, 1904.

The departure from normal for the month, as determined by a comparison of current values of thirty-one stations having a record of ten or more years with their normals, is -0.21.

The following table shows the average total precipitation for the State for the month of March since 1887:

1887.....	3.34	1896.....	5.34
1888.....	5.71	1897.....	2.78
1889.....	3.79	1898.....	3.33
1890.....	6.08	1899.....	6.54
1891.....	5.06	1900.....	3.51
1892.....	4.75	1901.....	4.64
1893.....	3.73	1902.....	4.34
1894.....	1.77	1903.....	5.13
1895.....	3.16	1904.....	3.43
		1905.....	3.95

### WIND AND WEATHER.

The prevailing direction of the wind was from the southwest. The average number of days on which precipitation equalled 0.01 inch was 12. The average number of clear days was 14; partly cloudy, 8; cloudy, 9.

### WEATHER AND CROPS.

The most noticeable feature was the absence of severe storms that usually occur during this month. The temperature and precipitation were nearly normal. The last decade was especially favorable, high temperature and abundant sunshine prevailing. Early sown wheat, rye and grass, the State over, have obtained an unusually good stand, except on low fields where ice did some injury, and in the Southern Section where the late seeded wheat was backward and thin on the ground. Plowing was begun in the Southern Section about the 17th, and by the close of the month considerable potatoes, peas and sweet corn had been planted and some oats seeded.

The fruit outlook, except in places where the San Jose Scale is prevalent, is fairly good; buds are plentiful and beginning to swell.



Climatological Data for New Jersey, March, 1905.

Stations	Counties	Elevation, feet. Above Sea Level.	Length of record years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.					Sky			Prevailing direction of wind.	Observers	
				Mean.	Departure from the normal.	Highest.	Date	Lowest.	Date	Greatest daily range.	Total	Departure from normal.	Greatest in 24 hours.	Total snowfall (unmelted). <sup>1</sup>	Days with .01 or more	Number of clear days	Number partly cloudy days.			Number cloudy days.
The Highlands and Kittatinny Valley.																				
Ayton.....	Sussex.....	550	3	33.5	.....	83	29	-7	5	50	3.55	.....	1.10	1.0	11	22	2	7	nw.	Warren C. Hursh.
Assex.....	Sussex.....	412	10	36.6	+0.2	86	29	2	5	45	3.95	-0.46	1.50	1.5	11	16	8	7	w.	Prof. W. H. Seeley
Awton.....	Sussex.....	678	25	35.8	+1.3	84	29	3	5	42	4.53	+1.21	1.68	2.0	12	13	9	9	sw.	Prof. Chas. J. Majory.
Adlertown.....	Warren.....	351	10	37.7	-0.8	85	29	4	3-5	47	4.09	-0.23	1.55	4.0	13	15	8	8	n.	R. D. Hull.
Alvidere.....	Warren.....	289	14	38.1	+1.0	87	29	5	5	48	3.58	-0.25	1.53	3.5	12	13	9	9	.....	Samuel J. Hixson.
Arlocteburg.....	Passaic.....	719	12	35.4	-0.5	82	29	4	5	43	3.15	-1.44	1.40	2.0	12	15	8	8	sw.	G. S. Briggs.
Arver.....	Morris.....	575	19	35.5	+1.4	83	29	-7	5	41	3.43	-0.39	1.50	2.0	12	8	14	9	.....	William C. Harris.
Arvester.....	Morris.....	860	12	37.4	+1.4	82	29	8	2	37	3.81	-0.63	1.35	2.5	12	10	10	11	sw.	Miss Louise DeCamp
Arllpsburg.....	Warren.....	196	1	38.8	+2.5	85	29	8	5	43	3.79	+0.41	1.25	4.6	12	16	5	10	w.	D. W. Smith.
Average for District.....				36.5	+1.0						3.76	-0.24		2.6	12	14	8	9	sw.	
The Red Sand Stone Plain.																				
Arterson.....	Passaic.....	110	29	40.6	+2.3	81	28-29	12	5	41	4.22	-0.35	1.48	2.0	12	9	15	7	nw.	H. A. Probert.
Arver Vale.....	Bergen.....	70	13	36.7	-0.7	80	28	3	5	47	3.83	-0.77	1.38	2.0	10	20	4	7	nw.	A. C. Holdrum.
Arnglewood.....	Bergen.....	135	15	38.5	+1.2	76	29	10	5	33	4.07	-0.49	1.34	2.0	14	13	5	13	nw.	William C. Tucker, C. E.
Arkwood.....	Essex.....	140	13	39.4	+1.9	79	28	10	5	38	3.80	-0.11	1.40	5.2	14	12	11	8	sw.	Prof. G. C. Sonn.
Arth Orange.....	Essex.....	200	34	38.2	+2.1	76	28-29	9	5	35	4.09	+0.15	1.27	4.0	13	15	5	11	nw.	W. J. Chandler, M.D.
Arw York City.....	New York.....	311	35	40.0	+3.1	74	29	14	5	28	3.65	-0.34	1.27	3.0	13	15	3	13	nw.	U. S. Weather Bureau.
Aryonne.....	Hudson.....	50	13	39.0	+0.2	77	28	11	5	36	4.19	+0.03	1.33	3.0	13	14	7	10	sw.	John H. Endle.
Arngen Point.....	Hudson.....	37	7	39.2	-1.4	78	28	12	5	37	3.97	-1.00	1.21	3.0	13	11	13	7	se.	Dr. W. H. Mitchell.
Arnfield.....	Union.....	100	13	39.0	+0.6	82	29	10	5	42	3.73	-0.69	1.13	3.7	12	12	11	8	nw.	John Neagle.
Arzabeth.....	Union.....	33	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. B. Drake.
Arerville.....	Somerset.....	76	20	39.6	+1.1	81	28-29	9	5	46	3.96	+0.15	1.15	4.5	12	13	9	9	nw.	Peter Hardcastle
Arington.....	Hunterdon.....	187	7	40.5	0.0	83	29	6	5	45	3.78	-0.98	1.09	4.5	12	17	5	9	nw.	H. E. Deats.
Armberville.....	Hunterdon.....	85	16	40.4	+2.3	82	29	7	5	44	3.67	-0.36	1.22	4.5	11	19	4	8	nw.	William R. Bowne.
Ar Brunswick.....	Middlesex.....	61	46	40.8	+2.4	83	29	10	5	40	3.93	+0.14	0.96	4.7	12	9	15	7	nw.	Charles V. Meyers.
Arlege Farm.....	Middlesex.....	100	8	42.2	+1.5	85	29	6	5	45	4.02	-0.10	0.98	1.2	13	19	2	10	se.	Miss J. A. Voorhees.
Average for District.....				39.6	+1.7						3.92	-0.21		3.4	12	14	8	9	nw.	
The Southern Interior.																				
Arhtstown.....	Mercer.....	85	12	39.4	-1.0	82	29-30	7	5	45	3.69	-0.09	0.98	4.0	13	12	7	12	ne.	C. M. Norton.
Arystown.....	Monmouth.....	106	17	42.2	+3.0	82	29	11	5	40	4.62	+1.45	0.94	2.5	12	14	10	7	sw.	F. C. Price, M.D.
Arkewood.....	Ocean.....	54	3	40.7	.....	83	29	9	5	43	4.02	.....	0.80	3.0	12	14	7	5	sw.	C. A. Roe.
Arllan Mills.....	Burlington.....	76	3	42.4	.....	82	29	9	5	42	5.06	.....	0.70	4.0	14	17	5	9	sw.	James Armstrong
Arnton.....	Mercer.....	60	28	43.8	.....	79	29	17	5	32	3.00	-1.49	0.51	2.0	9	5	19	7	sw.	E. R. Cook.
Arvery.....	Burlington.....	30	19	41.0	+1.9	80	29	9	5	40	4.24	0.00	0.79	4.5	12	13	11	7	w.	C. F. Richardson
Arccocas.....	Burlington.....	68	15	.....	.....	.....	.....	.....	.....	.....	4.57	+0.57	1.30	4.2	13	15	5	13	nw.	Spencer Haines.
Arrestown.....	Burlington.....	71	30	41.0	+2.9	81	29	9	5	41	4.24	+0.60	0.92	4.8	12	13	5	13	nw.	John C. Beans
Ardelphia, Pa.....	Philadelphia.....	.....	35	42.9	+2.8	79	29	16	5	36	4.18	+0.76	0.91	4.5	13	14	4	13	sw.	U. S. Weather Bureau
Arlyton.....	Gloucester.....	126	7	43.0	+0.7	80	29	13	5	40	4.01	+0.42	1.32	.....	12	14	6	7	sw.	W. T. Wilson.
Arland.....	Cumberland.....	118	32	42.4	+2.9	82	29	13	5	40	4.50	+0.21	1.01	1.0	12	14	10	7	ne.	Alfred Chalmers.
Arldgeton.....	Cumberland.....	30	17	41.2	+2.3	81	29	15	5	39	4.58	-0.05	0.95	.....	11	17	3	11	ne.	Henry A. Jorden.
Arldstown.....	Salem.....	16	3	.....	.....	.....	.....	.....	.....	.....	4.72	.....	1.75	1.0	11	10	11	10	.....	W. D. Dickinson.
Arlem.....	Salem.....	16	8	43.8	+1.5	80	28-29	15	5	39	3.55	+0.22	0.80	.....	12	19	2	10	nw.	Prof. Wm J. Bickett.
Arlesburg.....	Salem.....	143	11	42.3	-0.4	81	29	14	5	40	4.22	+0.89	0.97	0.5	12	11	11	9	ne.	H. C. Perry.
Arnton.....	Salem.....	24	2	.....	.....	.....	.....	.....	.....	.....	3.74	.....	1.35	.....	11	17	8	6	.....	J. H. Maskell.
Arms River.....	Ocean.....	33	11	37.4	-2.0	75	18	13	2	44	.....	.....	.....	.....	19	3	9	.....	se.	S. R. Harris.
Arkertown.....	Ocean.....	23	7	39.9	-1.2	78	28	10	5	40	4.66	+0.12	1.13	1.5	12	14	7	10	sw.	F. R. Austin.
Arasantville.....	Atlantic.....	26	3	.....	.....	.....	.....	.....	.....	.....	4.15	.....	1.07	.....	11	17	5	9	.....	Kenneth Allen.
Ardbine.....	Cape May.....	43	12	41.6	+0.4	78	28	13	5	36	3.48	-0.22	1.50	0	12	12	12	7	e.	H. L. Sabovich.
Arpe May C. H.....	Cape May.....	19	16	42.4	+1.2	80	29	14	5	32	3.00	-1.16	0.71	.....	12	16	7	8	e.	L. T. Garretson.
Average for District.....				41.8	+2.0						4.11	-0.09		2.1	12	14	7	9	sw.	
The Sea Coast.																				
Arldy Hook.....	Monmouth.....	14	1	38.0	.....	73	28	15	5	30	3.45	.....	1.00	3.4	13	14	6	11	w.	Arthur E. Jewell.
Aranc.....	Monmouth.....	16	17	39.8	+0.5	78	28	12	5	41	4.03	-0.52	0.98	3.0	12	13	10	8	sw.	Rev. S. W. Kulpe.
Arbury Park.....	Monmouth.....	22	15	39.5	+0.5	78	29	11	5	33	.....	.....	.....	3.3	10	12	7	12	ne.	B. H. Obert.
Arantic City.....	Atlantic.....	53	30	39.6	+2.0	69	31	15	5	27	4.34	+0.42	1.34	0.2	13	12	3	16	sw.	U. S. Weather Bureau
Arpe May City.....	Cape May.....	11	10	40.2	+0.7	66	27-31	16	5	20	2.80	-0.35	0.76	.....	12	12	10	9	ne.	U. S. Weather Bureau.
Average for District.....				39.4	+0.6						3.65	-0.72		2.0	12	13	7	11	sw.	

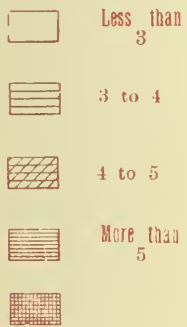
Letters of the alphabet denote the number of days missing from the record  
 \*\* Not considered; received too late. \* Thermometers other than standard. † Trace.  
 All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records  
 at stations that have ten or more years of observation.



[illegible]



TOTAL PRECIPITATION MARCH, 1905.



## Daily Precipitation for New Jersey, March, 1905.

Stations.	Day of month.																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
The Highlands & Kittatinny Val.																																	
Layton.....				.10				.48	.15	.36									.33	.02	*	1.10			.90		.07				.04		
Sussex.....				.15				.40	.20	.38									.30	.02	1.50	.15			.75		.05				.05		
Newton.....				.28				.58	.14	.16									.38	.05	1.68	.08			.92		.14				.12		
Blairstown.....				.40				.30	.07	.20									.45	.05	1.55	.10			.80		.07				.10		
Belvidere.....				.25				.11	*	.35									.70	.10	1.53	.06			.71						.12		
Charlotteburg.....				.22			.19	*	.46										*	*	*	1.40			.63		.10				.15		
Dover.....				.20				.58	*	.40									1.50	*	*	.45			.08		.07				.15		
Chester.....				.20				.55	*	.36									*	.60	*	1.35			.50		.10	.02			.15		
Phillipsburg.....				.35			.11	.41	.22	.17									.54	.03	1.25	.05		†	.61						.01		
The Red Sand Stone Plain.																																	
Paterson.....				.22			.03	.28	.23	.27									.45	.06	1.48	.14		†	.72		.25				.09		
River Vale.....				.20			.09	.20	.32	.23									.34	.42	*	1.38		.32		.28				.14			
Englewood.....				.10			.09	.31	.24	.07									.56	.33	*	1.34		.23		.57	.09	.19			.05		
Newark.....				.23			.12	.30	*	.36									.43	.08	*	1.40		.20		.41	.11	.13			.03		
South Orange.....				.30			*	.40	*	.60									.50	*	*	1.27		*	.68		.31				.03		
New York City.....				.28			.16	.32	.46	.03									.32	.07	1.20	*		.16		.40	.08	.15			.02		
Bayonne.....				.32			.14	.23	.30	.41									.40	.01	1.33	.08		.01		.70	.23			.03			
Bergen Point.....				.24			.17	.24	.33	.37									.34	.06	1.21	.08		.03		.63		.23			.04		
Plainfield.....				.35			.10	.31	.29	.32									.46	.01	1.13			.06		.37	†	.28			.05		
Elizabeth.....																																	
Somerville.....				.40			.18	.25	.25	.40									.53	.03	1.15	.03			.49		.22			.03			
Flemington.....				.35			.20	.18	.30	.39			†						.43	.05	1.09	.12			.43		.17			.07			
Lambertville.....				.40			.16	.40	*	.51									.29	.12	1.22	.14			.37					.06			
New Brunswick.....				.37			.18	.21	.30	.56			†						.39	.04	.96	.08	†	†	.52		.26			.06			
College Farm.....				.11			.12	.23	.30	.69									.35	.30	.98	.10		*	.50		.27			.07			
The Southern Interior.																																	
Hightstown.....				.40			*	.20	.49	.68									.32	*	*	.98		.03		.53					.06		
Imlaystown.....				.27			.02	.52	*	.94									*	*	1.55		.53		*	.55				.24			
Lakewood.....				.37			.19	.12	.49	.80									.10	.31	*	.56			.68		.34			.06			
Indian Mills.....				.42			.30	.30	.70	.70									.06	.67	.47	.12		*	.68		.40			.14			
Trenton.....				.28			.16	.45	.49										.39	.51	.36			†	†	.33				.03			
Berkeley.....				.35			.25	.28	.79	.19									.39	.37	.88	†		†	.31		.07	.26			.10		
Rancocas.....				.40			.25	.30	1.00	.26									.25	.70	.48			.06		.42	.05	.37			.03		
Westtown.....	†			.36			.22	.10	.71	.62									.18	.56	.09	.05		†	.36		.36			.03			
Philadelphia, Pa.....	†			.34			.24	.46	.87	.05									.79	.27	.64			.09	*	.18		.21	.01		.03		
Clayton.....				.16			.39	*	1.20	.16									.07	*	1.32			*	*	.77				.10			
Friesburg.....				.11			*	*	*	1.72									*	*	.97	.53		†	.37		.50			.02			
Canton.....	†			†			.31	*	*	1.35									.60	*	.55			.43	*	.42				.08			
Vineland.....	†			.16			.15	.08	.01	.72									.72	.33	.29			*	.65		.33			.06			
Woodstown.....				.10			.37	.43	*	1.75									.42	.55	.18			.35	*	.42				.15			
Bridgeton.....				.10			.35	.05	.95	.70									.85	.45	.25				.40		.40			.08			
Salem.....	†			.10			.20	.09	.70	.80									*	.70	.05	.05			.50	†	.31			.05			
Toms River.....								*	.40	.97									.01	1.13	.47	.05		*	.56					.60			
Tuckerton.....				.27			.20	*	.40	.97										.46	.58	.01		†	.51		.03			.24			
Pleasantville.....				.08			.21	.10	1.07	.86									*	.08	.40	*	1.50		.80	*	.10			.10			
Woodbine.....				.10			*	.40	*	1.50									*	.04	.22	†		.03		.71	†	.25			.17		
Cape May C. H.....	†			.06			.30	.13	.64	.45																							
The Sea Coast.																																	
Sandy Hook.....				.93			.17	.20	.35	.20									.25	.08	1.00	†		.03		.69	.04	.19			.02		
Oceanic.....				.33			.25	.07	.35	.58									.26	.18	.98	.09			.71		.18			.05			
Asbury Park.....																																	
Atlantic City.....				.15			.39	.34	1.13	.29									.35	.17	.40			.04		.70	.16	.12			.10		
Cape May City.....	†			†			.15	.06	.50	.76									†	.03	.16	.01		.03		.75	.02	.31			.12		

\* Precipitation included in that of following day.

† Trace, when precipitation is less than 0.01 inch.

## MISCELLANEOUS PHENOMENA.

## DATES OBSERVED.

*Sleet*.—7th, Bayonne, Sandy Hook; 9th, Moorestown; 20th, 21st, Chester; 21st, Sussex.

*Fog*.—3d, 4th, 8th, 9th, 10th, 17th, 18th, 20th, 24th, 25th, Sandy Hook; 8th, 20th, Canton; 8th, 24th, 30th, Hightstown; 8th, 19th, 20th, 24th, Phillipsburg; 8th, 24th, Newton; 8th, Tuckerton; 19th, Layton; 24th, Paterson.

*Solar Halo*.—1st, 11th, Indian Mills; 5th, Cape May C. H.; 6th, 11th, 19th, Rancocas; 11th, Canton, Hightstown, Imlaystown; 14th, Oceanic, Vineland, Imlaystown.

*Lunar Halo*.—11th, 19th, Rancocas; 11th, Vineland, Cape May; 12th, 19th, Bergen Point; 12th, Cape May C. H.; 14th, Bayonne.

*Thunderstorms*.—(Number of stations.)—19th, 12; 20th, 2; 25th, 1; 27th, 1; 30th, 33.

*Distant Thunder*.—19th, Cape May C. H.; 30th, Oceanic.

*Snow*.—1st, 4th, 7th.

Reports received from stations of the River and Flood Service of the U. S. Weather Bureau, located on the Delaware, Passaic, Pequannock and Ramapo Rivers, for the month of March, 1905.

Stations.	County.	River.	Total Precipitation.	Total Depth of Snowfall.	Remarks.
Phillipsburg.....	Warren.....	Delaware.....	3.81	4.8	River clear of ice 8th.
Trenton.....	Mercer.....	Delaware.....	3.56	2.0	River clear of ice 13th.
Chatham.....	Morris.....	Passaic.....	4.33	3.4	River clear of ice 19th.
Pompton Plains...	Morris.....	Pequannock...	4.21	0.3	Ice breaking up on 8th.
Mahwah.....	Bergen.....	Ramapo.....	4.01	0.1	River clear of ice 7th.
Little Falls.....	Passaic.....	Passaic.....	4.47	2.6	



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U. S. DEPARTMENT OF AGRICULTURE.

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REPORT FOR APRIL, 1905.

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NEW JERSEY SECTION  
OF THE  
CLIMATE AND CROP SERVICE  
OF THE  
WEATHER BUREAU.

IN COOPERATION WITH THE  
NEW JERSEY STATE WEATHER SERVICE.

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

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UNDER DIRECTION OF  
WILLIS L. MOORE,  
CHIEF U. S. WEATHER BUREAU,

BY

EDWARD W. McGANN,  
SECTION DIRECTOR.



ATLANTIC CITY, N. J.:  
WEATHER BUREAU OFFICE.

MAY 20th, 1905.

MONTHLY MEAN ISOTHERMS AND PREVAILING DIRECTION OF WIND, APRIL, 1905.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATE AND CROP SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION.

EDWARD W. MCGANN, Section Director.

VOL. XVIII.

ATLANTIC CITY, N. J.

No. 4.

## PROGRESS OF THE CROP SEASON.

ATLANTIC CITY, N. J., April 11th, 1905.

The prevailing weather conditions during the last decade of March and the first of April were generally favorable for the growth of wheat, rye and grass; good, even stands were reported from all sections, except in some low fields, where a little winter killing occurred. Plowing for oats and corn was begun early in the month, but hindered somewhat by the heavy rains on the 5th and 6th. In the Northern and Central Sections, some oats have been seeded and early potatoes planted. In the Southern Section a large acreage of sweet corn, onions, peas and other early truck crops has been planted, and considerable plowing was done and much oats seeded. The hot-house plants are in thriving condition and nearly ready for transplanting to the fields. The outlook for orchard fruit is fairly good, except in orchards where the San Jose scale is prevalent. In places in Mercer County many trees have been killed by this pest. Much spraying, more than ever before at this season of the year, has been done. Small fruits, especially strawberries, have wintered well, and owing to a good snow covering, during the winter months, very little heaving of the ground occurred, and the plants are in good condition.

During the week ending Monday, April 10th, 1905, the temperature, sunshine and precipitation, were slightly above the weekly average. Killing frost occurred on the morning of the 3d, but did little injury.

ATLANTIC CITY, N. J., April 17th, 1905.

The weather during the week has been cool and cloudy, with showers, heavy in the Southern Section, on the 11th, 12th, 13th and 16th. On the last date heavy snow squalls were general in all sections. The highest temperature recorded was 83° on the 11th, and the lowest, 27°, on the 14th and 17th. Frosts occurred on the mornings of the 10th, 14th and 17th, doing no injury to fruit buds, but some of the early transplantings were injured in the fields. Farming operations have progressed slowly, owing to the wet condition of the ground, yet a large acreage of early potatoes, sweet corn and peas has been planted and transplanting from the hot-beds to the fields begun. Wheat, rye and grass are in good growing condition. Early plum and peach trees are showing bloom in the Southern section. No serious injury to fruit buds by the severe winter weather is anticipated.

ATLANTIC CITY, N. J., April 25th, 1905.

The prevailing weather during the week has been favorable for all farming operations, the ground being in fine condition; much plowing, seeding and planting have been done. Severe killing frosts occurred on the 17th, 18th and 19th, and did considerable injury in the Southern Section, where the early peach, pear and plum trees were in bloom; much of the early

strawberry bloom was killed and the first asparagus, just above the ground, was destroyed. Snow squalls and frost were quite frequent in the Central and Northern Sections, but the fruit trees were not far enough advanced, and escaped injury. Wheat and rye continue in good growing condition, but grass was retarded by the cool weather. Reports received from all sections of the State, indicate that the small bush fruits have wintered well.

The temperature and rainfall were below the normal, the former shows a deficiency of about 3° on each day of the week. Light rains fell on the 22d and 23d, and averaged about 0.20 of an inch at all stations. The sunshine was about the average.

\* \* \*

## REMARKS BY CO-OPERATING OBSERVERS.

Moorestown.—A severe wind storm occurred on the 19th, within two miles of this station, prostrating three large barns, several large trees and much fencing; fifty panes of glass were broken in one dwelling house by the flying gravel. Fence rails were carried twenty yards by the force of the wind. Rye came in head on the 20th; apple bloom began on the 24th. (These dates are about the normal.) Hoptoads and carpenter bees, 20th; sandpipers, 10th; thrushes and barn swallows, 11th; chimney swallows and catbirds, 22d.

JOHN C. BEANS.

Trenton.—The flurry of snow on the 16th, was of a grayish brown color and continued for thirty minutes.

E. R. COOK.

Sandy Hook.—Heavy westerly squall on the 21st, between 3.55 and 4.05 P. M., during which time the wind attained a velocity of 68 miles per hour.

ARTHUR E. JEWELL.

\* \* \*

What Government experts are doing for the farmers, helping them to get away from old and unprofitable methods is indicated by an experiment in cotton growing which was made in Texas last year. A Government agent was sent down there and made a contract with a planter to put out twenty acres of cotton and have it grown under the direction of the Government. The farmer estimated his net profit from the twenty acres treated by his own method as \$700. This had to be guaranteed to him. Then the Government people went to work, selected seeds and approved fertilizers. Careful cultivation was practiced and the result was a net profit to the owner of \$2,250, or \$1,500 more than he expected. Brains pay in all kinds of business, especially that of farming, where so much knowledge of chemistry, botany and natural history is required.

\* \* \*

METEOROLOGICAL SUMMARY FOR THE STATE  
FOR THE MONTH OF APRIL, 1905.

## TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State, 49.9°, is 0.5° above the normal and 3.2° above the mean for the corresponding month of 1904.

The means for the various districts were as follows: The Highlands and Kittatinny Valley, 48.5°; Red Sand Stone Plain, 50.2°; Southern Interior, 50.9°; Sea Coast, 48.7°.

The highest monthly mean was 53.2°, at Bridgeton, Cumberland County, and the lowest 46.6°, at Dover, Morris County.

The highest temperature recorded at any station was 84°, at Indian Mills, Burlington County, and the lowest, 18°, at Layton, Sussex County. Range for the State, 66°.

The normal temperature for the month is 49.4°. The follow-

ing table shows the mean temperature for the State for the month of April since 1887:

1887.....	47.3	1896.....	52.4
1888.....	47.9	1897.....	50.4
1889.....	51.2	1898.....	47.8
1890.....	50.4	1899.....	49.9
1891.....	52.0	1900.....	50.8
1892.....	49.3	1901.....	48.3
1893.....	49.2	1902.....	50.2
1894.....	50.3	1903.....	50.9
1895.....	49.1	1904.....	49.4
		1905.....	49.9

#### PRECIPITATION, IN INCHES.

The average precipitation for the month (including melted snow) for all (47) reporting stations, was 2.88, which is 0.94 below the average for the corresponding month of 1904.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 1.95; Red Sand Stone Plain, 2.68; Southern Interior, 3.41; Sea Coast, 3.49.

The largest amount recorded at any station was 4.03, at Sandy Hook, Monmouth County, and the least, 1.53, at Layton, Sussex County.

The greatest depth of snowfall was 0.8 inch, at Rancocas, Burlington County.

The departure from the normal for the month, as determined by a comparison of current values of thirty-one stations having a record of ten or more years with their normals, is -0.55.

The normal precipitation for the month is 3.43. The following table shows the average total precipitation for the State for the month of April since 1887:

1887.....	2.70	1896.....	1.35
1888.....	3.28	1897.....	3.79
1889.....	5.32	1898.....	3.74
1890.....	2.65	1899.....	1.73
1891.....	2.19	1900.....	2.29
1892.....	2.49	1901.....	6.31
1893.....	5.21	1902.....	3.62
1894.....	3.09	1903.....	3.97
1895.....	4.88	1904.....	3.43
		1905.....	2.88

#### WIND AND WEATHER.

The prevailing direction of the wind was from the northwest.

The average number of days on which precipitation equalled 0.01 inch was 10. The average number of clear days was 12, partly cloudy, 11, and cloudy, 7.



#### MISCELLANEOUS PHENOMENA.

##### DATES OBSERVED.

*Hail.*—6th, Phillipsburg; 10th, Sandy Hook; 11th, 12th, Cape May C. H.; 16th, Toms River; 18th, Dover; 21st, Hightstown.

*Fog.*—5th, 6th, 27th, 28th, Oceanic; 5th, 14th, 30th, Rancocas; 5th, 27th, 28th, 29th, Atlantic City; 6th, 10th, 13th, 26th, 28th, 29th, Sandy Hook; 14th, 30th, Lambertville; 27th, 28th, 29th, Toms River; 27th, Hightstown; 27th, 28th, Moorestown; 27th, 28th, Newark; 27th, 29th, Bergen Point; 27th, 30th, Bayonne; 28th, 29th, 30th, Cape May; 28th, Somerville, Beverly; 29th, Chester; 30th, Trenton.

*Solar Halo.*—10th, Vineland; 13th, 23d, Phillipsburg; 23d, 24th, Rancocas, Indian Mills; 24th, Oceanic.

*Lunar Halo.*—10th, Newark; 12th, Bergen Point, Phillipsburg, Indian Mills; 12th, 13th, Beverly, Rancocas; 13th, Layton, Atlantic City, Vineland; 20th, Cape May C. H.

*Thunderstorms.*—(Number of Stations.)—4th, 16; 5th, 11; 6th, 3; 10th, 27; 11th, 12; 12th, 2; 14th, 9; 20th, 1; 21st, 22; 22d, 1; 27th, 6; 30th, 1.

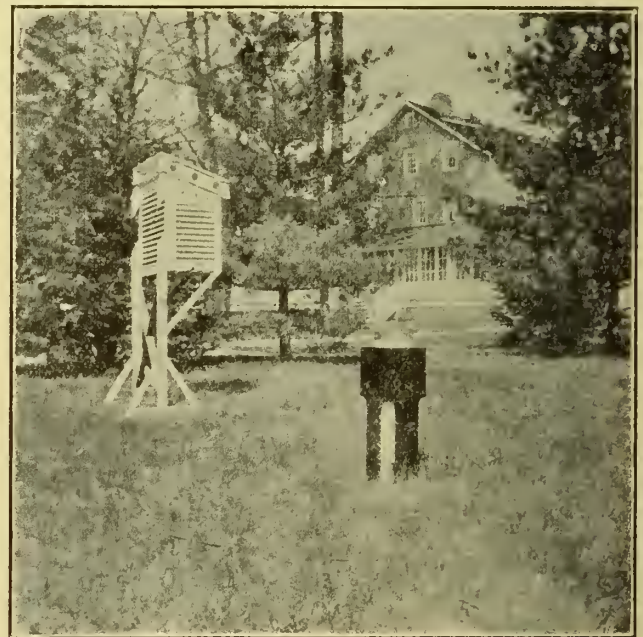
*Distant Thunder.*—4th, Vineland; 10th, Newton.

*Snow.*—5th, 8th, 16th, 17th, 18th.



Reports received from stations of the River and Flood Service of the U. S. Weather Bureau, located on the Delaware, Passaic, Pequannock and Ramapo Rivers, for the month of April, 1905.

Stations.	County.	River.	Total Precipitation.	Total Depth of Snowfall.
Phillipsburg.....	Warren.....	Delaware.....	1.70	0.1
Trenton.. .....	Mercer.....	Delaware.....	1.29	Trace.
Chatham.....	Morris.....	Passaic.....	2.96	Trace.
Pompton Plains..	Morris.....	Pequannock..	1.97	0.0
Mahwah.....	Bergen.....	Ramapo.....	1.76	Trace.
Little Falls.....	Passaic.....	Passaic.....	2.65	0.0



EXPOSURE OF THE INSTRUMENTS

AT

#### BROWN'S MILLS, IN THE PINES.

The station was established April 23d, and has been equipped with a full set of standard instruments, U. S. Weather Bureau pattern. Observations will begin May 1st. Brown's Mills is situated in the heart of the Pines, which stretches almost across Central New Jersey. "The Inn" is about twenty miles from the Sea Coast, and the elevation above sea level, is nearly one hundred feet. The observations will prove interesting, as no climatic records of this district has, as far as we know, ever been kept.



## Climatological Data for New Jersey, April, 1905.

Stations	Counties	Elevation, feet, Above Sea Level.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.					Sky.					Prevailing direction of wind.	Observers
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Days with .01 or more.	Number of clear days.	Number partly cloudy days.	Number cloudy days.			
<b>The Highlands and Kittatinny Valley.</b>																					
Layton.....	Sussex.....	550	3	46.8	.....	78	27	18	3-19	43	1.53	.....	0.40	†	9	22	6	2	sw.	Warren C. Hursh.	
Sussex.....	Sussex.....	442	10	49.0	-0.2	77	26	24	19	35	1.73	-1.34	0.54	†	9	20	7	3	w.	Prof. W. H. Seeley.	
Newton.....	Sussex.....	678	25	48.5	+0.2	75	27	24	19	34	2.33	-0.54	0.73	†	9	7	13	10	sw.	Prof. Chas. J. Majory.	
Blairstown.....	Warren.....	351	10	49.8	+0.7	78	27	23	19	38	2.16	-1.08	0.50	†	9	22	3	5	w.	R. D. Huff.	
Belvidere.....	Warren.....	289	14	50.6	+1.3	79	27	19	19	35	2.05	-0.99	0.55	†	8	17	10	3	.....	Samuel J. Hixson	
Charlotteburg.....	Passaic.....	719	12	47.0	+0.2	74	27	25	19	39	1.82	-2.33	1.00	†	9	16	10	4	w.	G. S. Briggs.	
Dover.....	Morris.....	575	19	46.6	-1.3	75	21	24	19	32	2.16	-1.02	1.10	†	11	3	16	11	.....	William C. Harris.	
Chester.....	Morris.....	860	12	47.4	-0.1	76	27	22	19	36	2.06	-2.03	1.00	0.5	9	6	18	6	w.	Miss Louise DeCamp.	
Phillipsburg.....	Warren.....	196	1	50.5	+0.6	77	21	28	3-19	34	1.70	-1.36	0.51	0.1	13	15	11	4	sw.	D. W. Smith.	
Average for District.....				48.5	+0.5						1.95	-1.52		†	10	14	10	5	w.		
<b>The Red Sand Stone Plain.</b>																					
Paterson.....	Passaic.....	110	29	52.0	+1.5	82	21	29	19	34	2.66	-0.57	1.11	†	50	7	19	4	nw.	H. A. Probert.	
River Vale.....	Bergen.....	70	13	47.6	-0.2	75	21	20	8	40	2.27	-1.00	0.84	†	7	19	5	6	nw.	A. C. Holdrum.	
Englewood.....	Bergen.....	135	15	49.8	+1.5	81	21	29	3-19	31	2.81	+0.05	0.90	0.3	9	13	6	11	nw.	William C. Tucker, C. P.	
Newark.....	Essex.....	140	13	50.4	+5.3	81	21	29	19	33	2.49	-1.09	0.79	†	14	12	12	6	nw.	Prof. G. C. Sonn.	
South Orange.....	Essex.....	200	34	49.0	+0.9	78	21	27	19	32	2.51	-0.78	0.80	†	12	9	12	9	nw.	W. J. Chaudler, M. D.	
New York City.....	New York.....	311	35	49.8	+1.7	76	21	31	17	28	2.45	-0.93	1.07	†	13	10	11	9	nw.	U. S. Weather Bureau.	
Bayonne.....	Hudson.....	50	13	50.0	-0.1	81	21	30	19	33	2.72	-0.53	1.22	†	12	11	9	10	nw.	John H. Eadie.	
Bergen Point.....	Hudson.....	37	7	49.6	-0.3	81	21	28	19	35	2.87	-1.30	1.22	†	11	9	18	3	nw.	Dr. W. H. Mitchell.	
Plainfield.....	Union.....	100	13	49.8	-0.4	80	21	26	19	38	2.96	-1.06	1.02	†	13	10	16	4	nw.	John Neagle.	
Elizabeth.....	Union.....	33	24	51.6	-0.1	82	21	29	17	36	2.95	-0.34	1.70	†	8	16	6	8	sw.	M. Oliver.	
Somerville.....	Somerset.....	76	20	50.0	0.0	82	21	23	18	38	2.57	-0.48	1.02	†	9	16	2	12	nw.	Peter Hardcastle.	
Flemington.....	Hunterdon.....	187	7	50.2	+0.2	79	21	24	19	39	2.71	-0.66	0.94	†	10	13	14	3	w.	H. E. Deats.	
Lambertville.....	Hunterdon.....	95	16	51.4	+0.9	80	21	26	19	44	2.71	-0.60	1.09	†	11	22	6	2	nw.	William R. Bowne.	
New Brunswick.....	Middlesex.....	61	46	51.5	+1.9	80	21	27	19	38	3.02	-0.66	1.20	†	11	8	19	3	sw.	Charles V. Meyers.	
College Farm.....	Middlesex.....	100	8	.....	.....	80	21	27	3-19	..	2.83	.....	1.07	†	12	15	13	2	se.	Miss J. A. Voorhes.	
Average for District.....				50.2	+1.1						2.68	-0.74		†	11	13	11	6	nw.		
<b>The Southern Interior.</b>																					
Hightstown.....	Mercer.....	85	12	49.6	-1.7	82	21	24	19	41	2.77	-1.01	0.83	0.0	12	7	7	16	nw.	C. M. Norton.	
Millaytown.....	Monmouth.....	106	17	51.2	+0.6	81	21	27	3-19	38	2.96	-0.21	0.54	0.0	9	9	13	8	nw.	F. C. Price, M. D.	
Lakewood.....	Ocean.....	54	3	50.0	.....	82	21	25	19	37	2.90	.....	0.67	†	9	18	8	4	nw.	C. A. Roe.	
Indian Mills.....	Burlington.....	76	3	51.0	.....	84	21	23	19	44	3.27	.....	0.82	†	10	10	15	5	nw.	James Armstrong.	
Trenton.....	Mercer.....	60	28	52.8	.....	78	11	33	19	33	2.80	-0.81	1.18	†	10	3	24	3	nw.	E. R. Cook.	
Levittown.....	Burlington.....	30	19	50.9	-0.4	80	21	28	19	38	3.86	+0.51	1.24	0.2	9	8	12	10	nw.	C. F. Richardson.	
Lawrenceville.....	Burlington.....	68	15	.....	.....	.....	.....	.....	.....	.....	3.49	+0.59	1.15	0.8	11	12	7	11	nw.	Spencer Haines.	
Forestville.....	Burlington.....	71	30	50.8	+1.5	80	21	26	19	37	3.12	+0.45	1.02	0.6	13	9	11	10	nw.	John C. Beane.	
Philadelphia, Pa.....	Philadelphia.....	.....	35	52.6	.....	79	21	33	19	31	3.58	.....	1.05	†	13	8	11	11	nw.	U. S. Weather Bureau.	
Layton.....	Gloucester.....	125	7	50.0	-0.5	79	11	25	9-19	42	3.46	+0.08	1.02	0.0	12	12	8	4	w.	W. T. Willson.	
Irland.....	Cumberland.....	118	32	50.6	+0.1	81	11-21	26	3-19	40	3.84	+0.55	0.96	†	10	9	16	5	nw.	Alfred Chalmers.	
Bridgeport.....	Cumberland.....	30	17	53.2	+0.6	83	11	26	19	38	3.38	+0.20	1.18	0.0	9	14	7	9	w.	Henry A. Jorden.	
Woodstown.....	Salem.....	16	3	.....	.....	.....	.....	.....	.....	.....	3.31	.....	0.67	†	9	12	16	2	nw.	W. D. Dickinson.	
Salem.....	Salem.....	16	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Prof. Wm. J. Bickett.	
Riesburg.....	Salem.....	143	11	51.2	+0.7	81	11-21	25	19	40	3.63	+0.22	1.12	†	12	8	17	5	w.	H. C. Perry.	
Antoni.....	Salem.....	24	2	.....	.....	.....	.....	.....	.....	.....	3.45	-0.33	1.51	†	9	13	12	5	.....	J. H. Maskell.	
oms River.....	Ocean.....	33	11	49.6	+0.4	82	21	21	19	41	2.78	.....	0.94	†	10	14	8	8	w.	S. R. Harris.	
uckerton.....	Ocean.....	23	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. R. Austin.	
Leasantville.....	Atlantic.....	26	3	.....	.....	.....	.....	.....	.....	.....	3.65	.....	0.96	?	10	15	9	6	.....	Kenneth Allen.	
Woodbine.....	Cape May.....	43	12	50.2	+0.1	78	11	25	19	34	2.60	-0.91	0.80	0.0	7	16	9	5	w.	H. L. Sabovich.	
Cape May C. H.....	Cape May.....	19	16	50.9	+0.4	78	11	27	19	29	3.91	+0.53	1.25	†	11	11	15	4	nw.	L. T. Garretson.	
Average for District.....				50.9	+0.4						3.41	-0.03		†	10	11	12	7	nw.		
<b>The Sea Coast.</b>																					
Andy Hook.....	Monmouth.....	14	1	48.4	.....	77	21	31	17	33	4.03	.....	1.72	0.3	13	7	9	14	nw.	Arthur E. Jewell.	
ceanic.....	Monmouth.....	16	17	49.6	-1.4	78	21	28	19	34	3.26	-0.09	0.98	†	11	11	16	3	w.	Rev. S. W. Knipe.	
sbury Park.....	Monmouth.....	22	15	48.3	-0.7	74	10	28	19	32	3.19	-0.49	0.75	†	11	10	12	8	se.	B. H. Obert.	
Atlantic City.....	Atlantic.....	53	30	48.0	+1.2	72	30	29	3	24	3.51	+0.20	1.09	†	11	8	11	11	sw.	U. S. Weather Bureau.	
Cape May City.....	Cape May.....	11	10	49.3	+1.1	70	25	32	3	25	3.46	+0.31	1.48	†	10	7	18	5	s.	U. S. Weather Bureau.	
Average for District.....				48.7	-0.1						3.49	+0.12		†	11	9	13	8	sw.		

Letters of the alphabet denote the number of days missing from the record.

\*\* Not considered; received too late.

\* Thermometers other than standard.

† Trace.

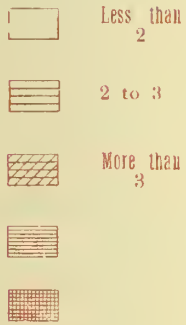
All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records on stations that have ten or more years of observation.



[illegible]



## TOTAL PRECIPITATION APRIL, 1905.



## Daily Precipitation for New Jersey, April, 1905.

Stations.	Day of month.																															Total.	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
The Highlands & Kittatinny Val.																																	
Layton.....				+	.40	.38				.10	.15	.02		.05		†	†			.14	.14									.15		1.53	
Sussex.....					.40	.54				.11	.10	.05			.08	†	†	†		.08	.29									.08		1.73	
Newton.....					.73	.38				.20	*	.12		.40							.34							.05			.11		2.33
Blairstown.....					.50	.45				.15	.08			*	.45						.33									.20		2.16	
Belvidere.....				†	.55	.40				.22										.45	.21						.08	.02			.12		1.10
Charlottesville.....					*	1.00				.12	.10				.20			.08			.16						.04				.12		1.82
Dover.....				.10	*	1.10		†		.15	.03			*	.28	†	†	.15		.18	.08						†			.09		2.16	
Chester.....					1.00	.20				.10				.30	†	†	†	.15		.20	.06									.05		2.06	
Phillipsburg.....				†	.51	.20				.26	.02	.02			.26	†	†	.01		.03	.20	†					.01	.01		.16	.01	1.70	
The Red Sand Stone Plain.																																	
Paterson.....				†	1.11	.53				.03	.09			.29				.07		.02	.42						†	.01		.09		2.60	
River Vale.....				.54	.84	.24				.12				.14						.11	.28											2.27	
Englewood.....				.90	.72				†		.17	.09		.14						.10	.32							.31		.06		2.81	
Newark.....				.55	.79	.13				.05	.09	.03		.18		†	†	.02		.08	.42						.01	.11	†	.02	.01	2.49	
South Orange.....				.08	.80	.50				.02	.11	.06		.23		†	†	.05		.08	.43							.12		.03		2.51	
New York City.....				.37	.99	.18				.03	.11	.10		.15		†	†	†		.05	.14	.01				.04	.25	†	.03			2.45	
Bayonne.....				.03	1.22	.36	†			.01	.15	.16		.20		†	†	†		.03	.20							.33	†	.03	†	2.72	
Bergen Point.....				†	1.22	.37				.04	.15	.18	†	.14		†	†	.02		†	.25	.02						.45		.03		2.87	
Plainfield.....				.36	1.02	.19				.07	.14	.16		.25	.05	†	†	.04		.06	.32						†	.25	†	.05		2.96	
Elizabeth.....				†	*	1.70					.18	.15		.19					†	.37								.36				2.95	
Somerville.....				†	1.02	.28				.02		.41		.11				†			.46							.21	.01		.05	2.57	
Flemington.....				†	.94	.35				.19	.23	.13		.15	†	†	.02		†	.36								.27	†	.07		2.71	
Lambertville.....				.21	*	1.09				.40		.18		.10		†	†	†		.12	.22	.05					†	.28		.06		2.71	
New Brunswick.....				.03	1.20	.42				.06	.22	.18		.09	†	†	†	.06		†	.14							.57		.05	†	3.02	
College Farm.....				.05	1.07	.38				.06	.24	.24		.05	†	†	†	.07		†	.15	.06						.42		.04		2.83	
The Southern Interior.																																	
Hightstown.....				*	*	.69		†		.83	.01	.11		.25		.16		.01		†	.59							.07	.05			2.77	
Imlaystown.....				*	*	1.44					.54			.30						.24								.28	.04		.12		2.96
Lakewood.....					.67	.46					.33	.38	.05			†				.19	.24							.57		.01		2.90	
Indian Mills.....					.82	.35		†		†	.63	.43	.06							*	.33							.63		.02		3.27	
Trenton.....					.73	.45		†		.19	†			.05		.17	†	.08		†	.45							.28	.30	†	.10		
Beverly.....				†	1.24	.17		†		.15	.23	.27	†	†	†	.02	†	†		†	.49	†						.17	.12	†	†		3.86
Rancocas.....				.25	.90	.10	†	†		.25	.28	†	.38	†	†	.06	†	.02		†	.36							.25	.64	†	†		3.49
Moorestown.....				†	1.02	.14	†	†		.05	.49	.29	†	†	†	.05	.01	.02			.25	.08						.10	.61		.01		3.12
Philadelphia, Pa.....				.25	1.01	.05	†	†		.36	.64	.24	†	.01		.06	†	.01		†	.38							.22	.34	†	.01		3.58
Clayton.....				.05	*	1.02					.70	.42			.06	.02				*	.25							.17	.77			3.46	
Friesburg.....					*	1.12					.85	.49	.04		.06	.02				.04	.22							*	.77		.02		3.63
Canton.....			†		†	* 1.01					*	1.54	.08		.09	†	†	†			.30							.30	.13		†		3.45
Vineland.....					.74	.22					.89	.57	.18	.06		†	†	†			.07	.36						*	.75			3.84	
Woodstown.....				.28	.67						.65	.60		.12							*	.28						.51	.30			3.31	
Bridgeton.....					.85	.33				.95	.72		.20	.05		†	†	†			.05							.25	.18			3.88	
Salem.....																																	
Toms River.....				*	.94			†		.45	*	.46	†			.02	†	†			*	.35							.54		.02		2.78
Tuckerton.....																																	
Pleasantville.....					.48	.21					.96	.67	.21								.32	.10						.02	.46		.22		3.65
Woodbine.....					*	.70					.50	.80	.10															†	.50			2.60	
Cape May C. H.....					.38	.24					.31	1.25	.27	.03		.01	†				†	.20						.05	.31	†	†	.86	3.91
The Sea Coast.																																	
Sandy Hook.....					1.72	.80				.15	.18	.19		.01	.03		†	.04			.26	.14						.01	.43	†	†	†	4.03
Oceanic.....				†	.98	.88				.18	.05	.23			.05	†	†	.07		†	.27	.15						.06	.34			3.26	
Asbury Park.....					.59	.75				*	.35	.11	.20		†	†	†	.08		.02	.37	.21						†	.51	†		3.19	
Atlantic City.....				†	.81	.11		†	†		.44	.52	.57	.16		.02	†	†			.26							.06	.31		.25		3.51
Cape May City.....					.37	.29		†		†	.23	.67	.23			†	†	†			.20	.18						†	.19		†	1.08	3.46

\* Precipitation included in that of following day.

† Trace, when precipitation is less than 0.01 inch.



37.05  
LNNJ  
U. S. DEPARTMENT OF AGRICULTURE.

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REPORT FOR MAY, 1905.

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NEW JERSEY SECTION  
OF THE  
CLIMATE AND CROP SERVICE  
OF THE  
WEATHER BUREAU.

IN COOPERATION WITH THE  
NEW JERSEY STATE WEATHER SERVICE.

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

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UNDER DIRECTION OF  
WILLIS L. MOORE,  
CHIEF U. S. WEATHER BUREAU,

BY

EDWARD W. McGANN,  
SECTION DIRECTOR.



ATLANTIC CITY, N. J.:  
WEATHER BUREAU OFFICE.

JUNE 24th, 1905.

MONTHLY MEAN ISOTHERMS AND PREVAILING DIRECTION OF WIND, MAY, 1905.





U. S. DEPARTMENT OF AGRICULTURE,

**CLIMATE AND CROP SERVICE**

OF THE

**WEATHER BUREAU.**

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION.

EDWARD W. MCGANN, Section Director.

VOL. XVIII.

ATLANTIC CITY, N. J.

No. 5.

**PROGRESS OF THE CROP SEASON.**

ATLANTIC CITY, N. J., May 2d, 1905.

The weather conditions during the week ending Monday, May 1st, have been very favorable for plowing, planting and seeding, also for the growth of all crops. In the Northern Section farm work has advanced rapidly and much plowing and seeding have been done. The seeding of oats is finished and the planting of potatoes and gardening is progressing. Grain and grass have obtained a good stand. In the Central Section the seeding of oats is completed and a large acreage of potatoes planted, some are above ground. Sod plowing for corn is under way and planting will begin during the ensuing week; grain and grass are in fine condition. Orchard fruit trees are in bloom and very promising, especially the late varieties. In the Southern Section the warmer weather followed by gentle rains have greatly stimulated all crops; fruit trees are in full bloom, except peaches. The severe frosts of previous week killed a large portion of the bloom, strawberries also suffered, but the late varieties escaped serious injury.

ATLANTIC CITY, N. J., May 9th, 1905.

The temperature has been from 3 to 5 degrees below the normal on every day of the week, except Sunday, when it was from 10 to 15 degrees above. The rainfall was greatly deficient, only light showers occurring on the Southern seacoast, and in the extreme Northern Section, on the 4th, but insufficient for present needs. All vegetation would be greatly stimulated now by a good, warm rain, as the growing crops need it. Good progress has been made during the week in plowing, planting and general truck farming; oats are above ground and the stand even. The transplanting of tomatoes and sweet potatoes, from the hot-beds to the fields, was begun in the Southern Section, and the planting of corn in the Central and Northern Sections was quite general.

Orchard fruit trees are full of bloom, especially apple, the bloom being more profuse than that of last year. Heavy frost on the mornings of the 2d and 3d did some injury to asparagus and other tender vegetation, but did no injury to fruit blossoms.

ATLANTIC CITY, N. J., May 16th, 1905.

The temperature and sunshine were above the normal on nearly every day of the week, but the rainfall was again very deficient, until the afternoon of the 14th, Sunday, when copious showers occurred. Plowing was difficult, and suspended in

places, owing to the dry condition of the soil. Germination and growth were checked, as was also the transplanting of truck crops. As the showers on Sunday were sufficient, work will now be pushed. Rye is heading out, but in some places the straw is short; wheat continues in good condition, and a good stand of oats has obtained. Orchard fruits have set well; reports from the Northern Section indicate a good set of peaches. Early strawberries are maturing in the Southern Section and picking will begin in a few days.

ATLANTIC CITY, N. J., May 23d, 1905.

The frequent rains during the first half of the week were very unevenly distributed, the Southern, and portions of the Central Sections receiving the greatest, and the Northern, the least amounts. The temperature was generally about normal, except on the 21st, when it was 9° below; heavy frost occurred on this date (Sunday morning). In low places, sweet potatoes were slightly nipped in the hot-beds and other tender plants in the fields suffered somewhat, but no serious injury was done, as far as heard from.

The rains were of great benefit in all places where sufficient; much planting and transplanting have been done, and the truck crops in the Southern and Central Sections are now in good growing condition. In the Northern Section more rain is needed, as the sub-soil is very dry. Orchard and small fruits have obtained quite a promising set, and the outlook for a good yield of these fruits is encouraging. Cut worms are becoming quite numerous and doing injury to corn and lima beans.

ATLANTIC CITY, N. J., May 30th, 1905.

Cool weather during the week, with a large deficiency of sunshine and rainfall has retarded the growth of all crops; corn in places, is coming up uneven, and much replanting will be necessary; wheat, rye and oats are in fairly good condition, but in need of rain, the first is heading out well, but generally the straw is short. The prospects of all small fruits continue promising. Cut worms and other insects are unusually numerous, and doing much damage to corn, tomatoes and lima beans. The heavy frost on the morning of the 21st, noted in last week's bulletin, was very destructive in low places. Much corn, potatoes and tender truck were badly nipped. In Burlington and Ocean Counties, the cranberries suffered considerable injury.

The rainfall was very light, varying from a trace to 0.09 inch.

\* \* \*

**METEOROLOGICAL SUMMARY FOR THE STATE  
FOR THE MONTH OF MAY, 1905.**

The mean temperature for the State, 61.4°, is 1.4° above the mean for the corresponding month of 1904.

The means for the various districts were as follows: The Highlands and Kittatinny Valley, 60.1°; Red Sand Stone Plain, 61.4°; Southern Interior, 62.5°; Sea Coast, 58.8°.

The highest monthly mean was 65.6°, at Bridgeton, Cumberland County, and the lowest 57.2, at Asbury Park, Monmouth County.

The highest temperature recorded at any station was 89°.

at Bridgeton, Cumberland County, on the 12th and 28th, and the lowest, 22°, at Layton, Sussex County, on the 2d. Range for the State, 67°.

The normal temperature for the month is 60.4°. The following table shows the mean temperature for the State for the month of May since 1887;

1887.....	63.3	1896.....	65.3
1888.....	52.4	1897.....	60.6
1889.....	62.3	1898.....	58.5
1890.....	60.7	1899.....	61.1
1891.....	59.5	1900.....	60.9
1892.....	60.1	1901.....	58.6
1893.....	59.4	1902.....	60.3
1894.....	61.4	1903.....	62.7
1895.....	60.9	1904.....	62.8
		1905.....	61.4

#### PRECIPITATION, IN INCHES.

The average precipitation for the month for all (50) reporting stations, was 1.71, which is 0.89 below the average for the corresponding month of 1904.

The average for the various districts were as follows: The Highlands and Kittatinny Valley, 1.40; Red Sand Stone Plain, 1.18; Southern Interior, 2.16; Sea Coast, 1.79. The largest amount recorded at any station was 3.94, at Canton, Salem County, and the least, 0.42, at Somerville, Somerset County.

The departure from the normal for the month, as determined by a comparison of current values of thirty-one reporting stations having a record of ten or more years with their normals, is — 2.54.

The normal for the month is 4.25. The following table shows the average total precipitation for the State for the month of May since 1887:

1887.....	1.37	1896.....	3.21
1888.....	4.92	1897.....	5.68
1889.....	4.09	1898.....	7.00
1890.....	4.24	1899.....	1.92
1891.....	2.97	1900.....	4.71
1892.....	5.04	1901.....	5.60
1893.....	4.07	1902.....	2.04
1894.....	7.72	1903.....	0.59
1895.....	2.85	1904.....	2.60
		1905.....	1.71

#### WIND AND WEATHER.

The prevailing direction of the wind was from the southwest.

The average number of days on which precipitation equalled 0.01 inch was 8. The average number of clear days was 12; partly cloudy, 11; cloudy, 8.

—O—

The chief characteristics of the month were the long drought and the uneven distribution of the rainfall, which may be seen from the table of daily precipitation published on page 8. Portions of Burlington, Mercer, Salem, Atlantic and Cape May Counties received more than three inches, while portions of

Warren, Passaic, Union, Somerset, Hunterdon, Ocean and Monmouth received less than one inch. The greatest deficiency occurred in the Northern and Central Sections and along the northern seacoast. In nearly all sections vegetation suffered from the absence of sufficient moisture. Wheat and rye have headed out well, but the straw is very short; oats generally are promising; the yield of grass and clover has been seriously shortened and pasture fields in places were drying up. The springs and streams are unusually low. Orchard fruit continues promising, although the dropping of apples was reported from some places. Cut-worms have been unusually destructive to corn, and much replanting was necessary.



#### MISCELLANEOUS PHENOMENA.

##### DATES OBSERVED.

*Frost, Killing.*—The last killing frost of the season occurred at many stations on the morning of the 2d, also at Layton on the 24th, Newton and Friesburg on the 21st; Charlotteburg 22d, and River Vale, 24th.

*Frost, Light.*—Quite general on the morning of the 21st and 22d.

*Fog.*—3d, 4th, 5th, 11th, 12th, 13th, 16th, 17th, 18th, 26th, 27th, 29th, Sandy Hook; 4th, 5th, 6th, 7th, 13th, 14th, 16th, 17th, 27th, 28th, 29th, Cape May; 6th, 14th, 17th, 27th, 28th, Tuckerton; 5th, 27th, Toms River; 13th, 14th, Vineland; 16th, 17th, Phillipsburg; 16th, 17th, 18th, 29th, Canton; 16th, 27th, 28th, 29th, 30th, Asbury Park; 18th, Trenton; 16th, Englewood, 28th, Lambertville; 29th, Atlantic City.

*Hail.*—28th, Trenton.

*Solar Halo*—8th, 15th, Rancocas; 8th, 25th, Moorestown, 21st, Atlantic City; 21st, 22d, Cape May City; 22d, 25th, Indian Mills.

*Lunar Halo.*—11th, Indian Mills; 11th, 12th, Newark.

*Distant Thunder.*—7th, Cape May C. H.; 9th, 30th, Pater-son; 12th, Somerville; 14th, 15th, 16th, 28th, Indian Mills; 18th, 28th, Bergen Point; 28th, Toms River.

*Thunder Storms.*—(Number of Stations.)—6th, 1; 7th, 1; 9th, 4; 12th, 3; 13th, 6; 14th, 11; 15th, 18; 16th, 5; 17th, 5; 18th, 9; 23d, 3; 28th, 14; 29th, 1; 30th, 10; 31st, 3.



Reports received from stations of the River and Flood Service of the U. S. Weather Bureau, located on the Delaware, Passaic, Pequannock and Ramapo Rivers, for the month of May, 1905.

Stations.	County.	River.	Total Precipitation.
Phillipsburg.....	Warren.....	Delaware.....	0.92
Trenton.. .....	Mercer.....	Delaware.....	0.11
Chatham.....	Morris.....	Passaic.....	1.67
Pompton Plains...	Morris.....	Pequannock..	1.19
Mahwah.....	Bergen.....	Ramapo.....	0.52
Little Falls.....	Passaic.....	Passaic.....	0.89



Climateological Data for New Jersey, May, 1905.

Stations	Counties	Elevation, feet. Above Sea Level.	Length of record years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.					Sky.				Prevailing direction of wind.	Observers
				Mean.	Departure from the normal.	Highest	Date.	Lowest	Date.	Greatest daily range.	Total.	Departure from normal.	Greatest in 24 hours.	Total snowfall (unmelted.)	Days with .01 or more.	Number of clear days.	Number partly cloudy days.	Number cloudy days.		
The Highlands and Kittatinny Valley.																				
Clinton	Sussex	550	3	59.1	.....	85	29	22	22	45	1.56	.....	0.27	0	13	19	7	5	sw.	Warren C. Hursh.
Delaware	Sussex	442	10	60.8	+0.6	85	28	29	29	39	1.36	-2.45	0.38	0	8	18	6	6	sw.	Prof. W. H. Seeley
Delaware	Sussex	678	25	59.8	+0.3	83	29	29	29	38	2.22	-2.40	0.60	0	12	12	8	11	sw.	Prof. Chas. J. Majory
Delaware	Warren	289	14	62.5	+1.8	88	4	30	30	40	0.87	-3.67	0.27	0	6	20	6	5	.....	Samuel J. Hixson
Delaware	Passaic	719	12	58.5	+1.1	83	28	30	22	42	1.48	-3.51	0.44	0	9	16	10	5	w.	G. S. Briggs.
Delaware	Morris	575	19	59.0	+0.2	83	4	30	22	40	1.34	-3.24	1.02	0	7	1	17	13	.....	William C. Harris.
Delaware	Morris	860	12	59.4	+1.0	83	4	30	22	36	1.39	-2.92	0.70	0	6	6	15	10	sw.	Miss Louise DeCamp
Delaware	Warren	196	1	62.6	+2.0	88	4	81	2	37	0.95	-3.54	0.17	0	12	17	8	6	sw.	D. W. Smith.
Average for District				60.1	+1.7	.....	.....	.....	.....	.....	1.40	-3.21	.....	0	8	14	9	8	sw.	.....
The Red Sand Stone Plain.																				
Delaware	Passaic	110	29	62.5	+1.2	86	7	36	2	42	1.43	-3.15	0.29	0	9	7	17	7	s.	H. A. Probert.
Delaware	Bergen	70	13	59.8	+0.7	84	29	26	22	46	0.52	-4.28	0.34	0	2	8	11	2	nw.	A. C. Holdrum.
Delaware	Bergen	135	15	60.6	+0.4	83	7	36	22	32	1.06	-3.58	0.27	0	5	7	13	11	se.	William C. Tucker, C.E.
Delaware	Essex	140	13	61.0	+1.3	82	35	35	22	35	1.25	-2.72	0.27	0	9	12	7	12	se.	Prof. G. C. Soun.
Delaware	Essex	200	34	60.0	-0.4	82	32	32	22	34	1.21	-2.28	0.27	0	8	14	8	9	sw.	W. J. Chandler, M.D.
Delaware	New York	314	35	60.5	+1.0	80	7	41	22	28	1.12	-2.06	0.32	0	9	9	14	8	s.	U. S. Weather Bureau.
Delaware	Hudson	50	13	60.7	-0.2	82	7	35	22	31	1.11	-3.06	0.40	0	7	9	10	12	se.	John H. Eadie.
Delaware	Hudson	37	7	60.3	+0.4	83	7-26	34	22	32	1.50	-2.98	0.58	0	9	8	1	6	se.	Dr. W. H. Mitchell
Delaware	Union	100	13	60.8	+0.6	83	4-15	32	22	38	0.98	-3.60	0.30	0	7	10	12	9	nw.	John Neagle.
Delaware	Union	33	24	63.5	+3.8	88	4	35	22	36	2.06	-2.03	0.74	0	5	24	1	6	s.	M. Oliver.
Delaware	Somerset	76	20	61.6	+0.3	86	15	29	22	40	0.42	-3.86	0.25	0	8	13	7	11	sw.	Peter Hardcastle.
Delaware	Hunterdon	187	7	62.0	+1.4	86	15	29	22	41	0.64	-4.13	0.42	0	8	16	8	7	sw.	H. E. Deats.
Delaware	Hunterdon	95	16	63.4	+1.9	86	18	32	22	38	1.13	-3.76	0.46	0	9	16	7	8	sw.	William R. Bowne.
Delaware	Middlesex	61	46	63.2	+2.8	87	4	33	22	37	1.49	-2.53	0.40	0	9	10	16	5	sw.	Charles V. Meyers.
Delaware	Middlesex	100	8	61.2	-0.2	84	15	31	22	36	1.83	-2.79	0.49	0	7	17	8	6	s.	Miss J. A. Voorhees.
Average for District				61.4	+1.0	.....	.....	.....	.....	.....	1.18	-3.12	.....	0	7	13	10	8	se.	.....
The Southern Interior.																				
Delaware	Mercer	60	28	63.8	.....	84	15	40	2	34	1.72	-2.20	0.48	0	6	5	19	7	sw.	E. R. Cook.
Delaware	Mercer	85	12	59.5	-2.2	86	7	32	2	38	3.00	-1.64	1.82	0	6	7	10	14	sw.	C. M. Norton.
Delaware	Monmouth	106	17	62.7	+0.5	84	4	34	2	35	1.55	-2.60	0.80	0	6	12	12	7	sw.	F. C. Price, M.D.
Delaware	Burlington	71	30	62.2	+1.2	84	27-29	34	2	35	1.31	-2.83	0.52	0	10	8	10	13	s.	John C. Beaus.
Delaware	Burlington	68	15	.....	.....	.....	.....	.....	.....	.....	1.51	-2.74	0.68	0	10	10	8	13	nw.	Spencer Haines.
Delaware	Burlington	71	3	63.6	.....	86	15	32	2	28	0.72	.....	0.24	0	8	13	12	6	nw.	Robert D. Cox.
Delaware	Ocean	54	3	61.6	.....	88	14	32	2	36	0.59	.....	0.22	0	6	14	14	3	s.	C. A. Roe.
Delaware	Burlington	76	3	63.4	.....	87	15	30	2	40	1.51	.....	0.42	0	10	14	12	5	s.	James Armstrong
Delaware	Burlington	30	19	62.5	+0.5	84	27	34	2	35	2.09	-2.47	1.01	0	11	7	12	12	sw.	C. F. Richardson
Delaware	Philadelphia	35	35	63.5	+0.8	84	7	44	2	32	1.41	-1.70	0.40	0	11	9	6	16	sw.	U. S. Weather Bureau.
Delaware	Gloucester	126	7	62.4	+1.2	85	27	32	2	36	1.56	-2.16	0.86	0	6	9	13	5	s.	W. T. Wilson
Delaware	Cumberland	118	32	62.6	+0.4	87	15	32	2	37	2.92	-1.02	1.05	0	11	9	19	3	w.	Alfred Chalmers
Delaware	Cumberland	30	17	65.6	+1.2	89	12-28	38	2-21	37	3.76	-0.74	1.30	0	7	16	3	12	sw.	Henry A. Jorden
Delaware	Salem	16	3	.....	.....	.....	.....	.....	.....	.....	2.17	.....	0.62	0	8	13	17	1	nw.	W. D. Dickinson.
Delaware	Salem	16	8	65.2	+2.8	85	12-28	37	21	40	2.17	-2.24	0.60	0	6	9	11	3	w.	Nathan S. DuBois.
Delaware	Salem	143	11	63.2	+2.0	86	15	35	21	35	1.85	-2.09	1.00	0	10	12	15	4	s.	H. C. Perry.
Delaware	Salem	24	2	.....	.....	.....	.....	.....	.....	.....	3.94	.....	1.23	0	9	18	6	7	.....	J. H. Maskell.
Delaware	Ocean	33	11	60.6	+0.4	88	15	28	2	43	0.68	-4.03	0.30	0	6	17	10	4	se.	S. R. Harris.
Delaware	Ocean	23	7	60.0	+0.1	82	7	28	2	36	2.45	-0.71	0.70	0	5	10	17	4	sw.	F. R. Austin.
Delaware	Atlantic	26	3	.....	.....	.....	.....	.....	.....	.....	3.10	.....	1.07	0	7	14	13	4	.....	Kenneth Allen.
Delaware	Cape May	43	12	61.6	+0.9	85	12	35	2	39	3.75	+0.40	1.50	0	5	19	10	2	e.	R. H. Merrill.
Delaware	Cape May	19	16	61.8	+1.3	85	12	38	2-21	30	3.71	-0.14	1.33	0	9	11	15	5	se.	L. T. Garretson.
Average for District				62.5	+0.9	.....	.....	.....	.....	.....	2.16	-2.14	.....	0	8	12	12	7	sw.	.....
The Sea Coast.																				
Delaware	Monmouth	14	1	59.3	.....	82	4	41	2	35	1.28	.....	0.42	0	10	9	6	16	se.	Arthur E. Jewell.
Delaware	Monmouth	16	17	59.6	-1.6	83	7	34	2	36	1.26	-2.99	0.55	0	7	11	14	6	sw.	Rev. S. W. Knipe.
Delaware	Monmouth	22	15	57.2	-2.2	84	7-8	36	2	36	0.95	-3.08	0.29	0	7	16	6	9	se.	B. H. Obert.
Delaware	Atlantic	53	30	58.8	+1.6	83	7	42	21	29	2.97	+0.20	1.61	0	10	6	7	18	sw.	U. S. Weather Bureau.
Delaware	Cape May	11	10	59.3	+0.7	81	7-30	45	2-21	27	2.49	-0.61	0.64	0	11	8	19	4	s.	U. S. Weather Bureau.
Average for District				58.8	-0.3	.....	.....	.....	.....	.....	1.79	-1.75	.....	0	9	10	10	11	sw.	.....

Letters of the alphabet denote the number of days missing from the record.  
\*\* Not considered; received too late. \* Thermometers other than standard. † Trace.  
All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records at stations that have ten or more years of observation.

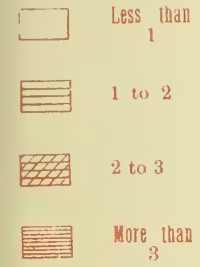


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TOTAL PRECIPITATION MAY, 1905.

Legend of Shades - Inches



## Daily Precipitation for New Jersey, May, 1905.

Stations.	Day of month.																															Total.		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
The Highlands & Kittatinny Val.																																		
Layton.....							.14		.01			.03	.27	.05	.06	.23	.13	.06					.11				.27			.18	.02	1.56		
Sussex.....							.08						.35	.05		.15	.10					.08					.38			.17		1.36		
Newton.....							.05					.10	.52	.10		.14	.12	.10		.02		.10				.33			.60	.04	2.22			
Belvidere.....							.12							.27		.14	.10	.12									.12					0.87		
Charlotteburg.....							.08					.11	.22		.23		.12					.08								.20	.44	1.48		
Dover.....							.04		.02			.47	.55				.16					.05										.05	1.84	
Chester.....							†		†			.70	.23			.23		.05				.10										.08	1.82	
Phillipsburg.....							.01		.07	†	.02	.12		.08	.06	.07	.09	.14				.17					.14					.03	0.95	
The Red Sand Stone Plain.																																		
Paterson.....						†	†		.10			.14	.35	.29		†	.03	.12				.02					.26			.22	†	1.43		
River Vale.....													.34				.18															.052		
Englewood.....												.19	.24	.27				.17				†					†					.19	1.06	
Newark.....						†	†		†			.26	.16	.26	.01	.19	.01	.21				.01							†			.14	1.25	
South Orange.....												.20	.23	.27	.01	.15	.05	.20				†											.10	1.21
New York City.....						†			.03		†	.17	.15	.16	.19	.07	.02	.20				†					†	†					.13	1.12
Bayonne.....												.22	.40	.09	†	.06	.08	.29					.02							†			†	1.11
Bergen Point.....							.02				†			.06	.03	.11	.06	.36					.02					†						1.50
Plainfield.....												.14	.03	.08	.04	.28	.11	.30															†	0.98
Elizabeth.....												.18	.74			.64	.18																.32	2.00
Somerville.....												.07			.03		.05	.02	.35														†	0.42
Flemington.....												.02	.06	†	.05	.02	.02	.42				.03						†				†	0.64	
Lambertville.....										†		.33		.02	.46	.02	.08	.01		.01		.05											†	1.13
New Brunswick.....								†			†	.30	†	.10	.03	.22	.09	.40					.05					†	.28	†		.02	1.41	
College Farm.....											†	.34			.05	†	.43	.06	.49				.01									†	1.83	
The Southern Interior.																																		
Trenton.....					†							†	.10	.12	†	.48	.30	†														†	.30	1.73
Hightstown.....										†		.30		.03	†	1.52	†	.65					.03								†	.17	3.04	
Inlaytown.....										.03		.01			.36	†													.80		.32	.03	1.54	
Moorestown.....								†		†	.02	†	.04	.10	†	.10	.52	.19	†	†			.03				†		.04		.07	.20	1.31	
Rancocas.....								†		.03	†		.06	.12	.18	.50	.18	.03				.06						.01		.31	.03	1.51		
Browns Mills.....										†		†	†	.24	.01	.22		.16				.05						.01		.02	.01	0.73		
Lakewood.....												.17		.02		.22							.06										.10	0.56
Indian Mills.....										†			.08	.31	.11	.32	.05	.11					.06								.16	.15	1.51	
Beverly.....										†	.02	†	.05	.16	.02	1.01	.22	.23											.04		.13	.16	2.08	
Philadelphia, Pa.....			†	†	†	†			.01	.03		.02	.20	.08	.37	.19	.12		†			.02					†		†		.36	.01	1.41	
Clayton.....									†			†			.86	*	.05	.15														.50	1.50	
Vineland.....						†			†			.04	.03	1.05	*	.52	.04	.08					.02					.01		.52	.61	2.92		
Bridgeton.....									†	.10			1.30	.60	.03	.03												†		1.25	.45	3.70		
Woodstown.....										.07	.14			.62	.25	.26	.15													.48	.20	2.17		
Salem.....													.44	.33	.45	†	.10														.60	.25	2.17	
Friesburg.....										.03					1.00	.13	.09	.11															.46	1.83
Canton.....										.06				1.08	.34	.42	.12	*															.25	3.92
Toms River.....					†		†			†				.16		.30	*	.03												.01	†	.18	0.67	
Tuckerton.....															.70	.60																	.24	
Pleasantville.....							.02							1.07	.18	1.03																.40	.33	3.17
Woodbine.....														1.00	*	1.50																.75	.50	3.72
Cape May C. H.....						†				.09				.89	1.33	.38	.02	.05					.05					†				.20	.70	3.72
The Sea Coast.																																		
Sandy Hook.....				†								.34	.21	.02	†	.12	.01	.10			.01										.42	.02	†	1.22
Oceanic.....						.06						.33	.06	†		.16		.02													.55	†	1.22	
Asbury Park.....												.29	.08	†		.24	.01																.24	0.92
Atlantic City.....			†	†	.01	.01	.01	.08		†			.01	.62	1.06	.58	†	.01														.28	.34	2.92
Cape May City.....			†							.05				.38	.62	.50	†	.06														†	.64	2.42

\* Precipitation included in that of following day.

† Trace, when precipitation is less than 0.01 inch.



557.05  
L/N/VJ  
U. S. DEPARTMENT OF AGRICULTURE.

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REPORT FOR JUNE, 1905.

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NEW JERSEY SECTION  
OF THE  
CLIMATE AND CROP SERVICE  
OF THE  
WEATHER BUREAU.

IN COOPERATION WITH THE  
NEW JERSEY STATE WEATHER SERVICE.

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

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UNDER DIRECTION OF  
WILLIS L. MOORE,  
CHIEF U. S. WEATHER BUREAU,

BY

EDWARD W. McGANN,  
SECTION DIRECTOR.



ATLANTIC CITY, N. J.:  
WEATHER BUREAU OFFICE.

JULY 19th, 1905.





U. S. DEPARTMENT OF AGRICULTURE,

# CLIMATE AND CROP SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION.

EDWARD W. MCGANN, Section Director.

VOL. XVIII.

ATLANTIC CITY, N. J.

No. 6.

### PROGRESS OF THE CROP SEASON.

ATLANTIC CITY, N. J., June 6th, 1905.

The temperature during the week was about 2 degrees below the daily normal; cool nights generally prevailed and greatly retarded the growth of corn and other tender vegetation. Beneficial showers occurred in all sections, but were very unevenly distributed. The rainfall is still largely deficient; at many places less than one-half the normal amount was recorded during the month of May. Wheat and rye are heading nicely, but the straw is short; grass and clover are not so promising, the long continued absence of rain has shortened these crops; corn planted during the last half of May has come up uneven and considerable replanting will be necessary. The cut-worms are very destructive. Orchard and small fruit continue promising.

The following are the total rainfalls reported for the week in inches: Charlotteburg, 0.64; Sussex, 1.01; Layton, 0.47; Newark, 0.33; Bayonne, 0.64; South Orange, 0.25; Branchville, 1.29; Belvidere, 0.50; Phillipsburg, 0.71; Trenton, 0.71; New Brunswick, 0.68; Rowlands Mills, 0.34; Toms River, 0.27; Salem, 0.85; Pleasantville, 0.79; Canton, 1.78; Morristown, 0.33; Beverly, 0.39; Bridgeton, 1.10; Cape May, 0.81; Atlantic City, 0.88.

ATLANTIC CITY, N. J., June 13th, 1905.

Good rains on the 6th, 7th and 11th greatly benefited all crops, but cool weather and insufficient sunshine continue to retard growth. Cut-worms and potato bugs are very destructive, some fields of corn have been entirely destroyed by the former. Wheat, oats and rye are promising, but the hay and clover crops have been materially shortened by the drought, the recent rains having come too late to be of much benefit to these crops. Cultivation is progressing in all sections. In the central Section the ground is being prepared for buckwheat.

The following are the total rainfalls reported for the week in inches: Layton, 0.68; Newark, 0.98; Bayonne, 1.48; South Orange, 0.85; Branchville, 0.58; Phillipsburg, 0.59; Trenton, 0.41; New Brunswick, 0.96; Rowlands Mills, 0.85; Paterson, 0.50; Beverly, 0.95; Bergen Point, 1.38; Lakewood, 0.64;

Friesburg, 2.49; Flemington, 0.53; Hightstown, 0.34; Asbury Park, 0.99; Lambertville, 0.73; Deerfield, 2.04; Canton, 1.03; Pleasantville, 1.54; Bridgeton, 1.84; Cape May C. H., 1.07; Cape May, 1.38; Woodbine, 1.10; Atlantic City, 0.87.

ATLANTIC CITY, N. J., June 20th, 1905.

Copious showers were general on the 12th, 13th and 15th, except in portions of the Northern and Central Sections where they were light and insufficient for present needs. The last half of the week was characterized by a decided rise of temperature and plenty of sunshine, which greatly stimulated and improved all crop conditions. The hay and clover harvest and the seeding of buckwheat were begun. Cultivation was general and the soil being in fine condition much of this work was done. Wheat and rye are beginning to ripen and the heads are well filled; oats are in head and promise a good yield, but the straw in many places is short. Apples, in well cared for orchards, have a good set and very little dropping was reported; peaches, raspberries, gooseberries and currants are very promising. The week was the most favorable of any of the season thus far, and all crops show a marked improvement.

The following are the total rainfalls reported for the week ending Saturday, the 17th: Bergen Point, 0.83; Bayonne, 0.83; Branchville, 0.36; Charlotteburg, 1.26; Belvidere, 0.50; Phillipsburg, 0.50; Paterson, 1.40; Newark, 0.28; South Orange, 0.35; Rowlands Mills, 0.54; Lambertville, 0.50; College Farm, 0.27; Flemington, 0.51; Trenton, 0.45; New Brunswick, 0.23; Asbury Park, 0.72; Beverly, 0.95; Toms River, 1.12; Rancocas, 0.88; Moorestown, 0.65; Woodstown, 1.58; Canton, 1.10; Cape May, 0.21; Bridgeton, 0.82; Atlantic City, 0.40; Pleasantville, 0.77; Lakewood, 2.98.

ATLANTIC CITY, N. J., June 27th, 1905.

Copious showers have fallen in some portions of all sections but were unevenly distributed. In the Red Sand Stone section, they were sufficient to effectually break the drought, except in a small portion of Middlesex County. The days and nights were decidedly warmer and most beneficial, especially to corn and tender vine truck. Vegetation generally has been greatly stimulated and all crops are now in good growing condition. The harvesting of rye has begun, but hindered somewhat by the showers; much grass has been cut and is still in the fields, as the cloudy weather retarded the curing. In the Southern Section early potatoes, sweet corn and tomatoes were shipped to market. During the week the temperature ranged from 58 to 94 degrees.

The following are the total rainfalls in inches, for the week ending June 24th: Layton, 0.78; Sussex, 0.93; Branchville, 1.67; South Orange, 2.27; Newark, 1.49; Paterson, 1.17; Bayonne, 1.20; Bergen Point, 0.78; Livingston, 1.70; Phillipsburg, 0.49; Somerville, 1.24; Asbury Park, 0.89; Rowlands Mills, 0.77; Flemington, 1.06; Lambertville, 1.34; New Brunswick, 0.41; Woodbine, 0.59; Cape May, 0.05; Toms River, 0.04; Pleasantville, 0.10; Atlantic City, 0.67; Rancocas, 0.62; Beverly, 0.06; Bridgeton, 1.46; Moorestown, 0.49; Canton, 0.75; Woodstown, 0.47; Lakewood, 0.42; Trenton, 0.91.

# METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF JUNE, 1905.

The mean temperature for the State, 68.3°, is 1.4° below the normal, and 0.3° below the mean for the corresponding month of 1904.

The means for the various districts were as follows: The Highlands and Kittatinny Valley, 66.8°; Red Sand Stone Plain, 68.4°; Southern Interior, 69.3°; Sea Coast, 66.6°.

The highest monthly mean was 72.4°, at Bridgeton, Cumberland County, and the lowest, 64.8°, at Charlotteburg, Passaic County.

The highest temperature recorded at any station was 96°, on the 19th, at Phillipsburg, Warren County, Indian Mills, Ocean County, and Salem, Salem County, and the lowest, 35°, on the 4th, at Charlotteburg, Passaic County. Range for the State, 61°.

The normal temperature for the month is 69.7°. The following table shows the mean temperature for the State for the month of June since 1887:

1887.....	68.2	1896.....	68.1
1888.....	70.8	1897.....	66.1
1889.....	69.9	1898.....	70.1
1890.....	70.7	1899.....	72.3
1891.....	69.7	1900.....	70.4
1892.....	72.4	1901.....	70.0
1893.....	69.7	1902.....	67.5
1894.....	70.6	1903.....	64.0
1895.....	71.7	1904.....	68.6
		1905.....	68.3

## PRECIPITATION, IN INCHES.

The average precipitation for the month for all (48) reporting stations was 3.43, which is 0.30 above the average for the corresponding month of 1904.

The average for the various districts were as follows: The Highlands and Kittatinny Valley, 3.10; Red Sand Stone Plain, 3.43; Southern Interior, 3.73; Sea Coast, 2.49. The largest amount recorded at any station was 8.71 inches, at Woodstown, Salem County, and the least, 1.67 inches, at Cape May C. H., Cape May County.

The departure from the normal for the month, as determined by a comparison of current values of thirty-one reporting stations having a record of ten or more years with their normals, is — 0.10.

The normal precipitation for the month is 3.53. The following table shows the average precipitation for the State for the month of June since 1887:

1887.....	6.77	1896.....	5.46
1888.....	2.59	1897.....	3.38
1889.....	3.73	1898.....	2.10
1890.....	3.59	1899.....	2.50
1891.....	2.92	1900.....	3.08
1892.....	3.85	1901.....	1.57
1893.....	2.95	1902.....	6.57
1894.....	2.28	1903.....	7.68
1895.....	3.24	1904.....	3.13
		1905.....	3.43

## WIND AND WEATHER.

The prevailing direction of the wind was from the southwest.

The average number of days on which precipitation equalled 0.01 inch was 10.

The average number of clear days was 11; partly cloudy, 12; cloudy, 7.

## WEATHER AND CROPS.

The temperature, rainfall and sunshine were about the average, but the rainfall was very unequally distributed, and although the number of days on which the rain fell was above the average the showers were generally light and insufficient, and especially in portions of the Red Sand Stone Plain and the extreme Southern portion of the Southern Section, where truck crops have been greatly shortened by drought. Wheat and rye are ready to harvest, the heads are well filled, but the straw is short. The hay harvest was begun in places, but retarded by cloudy and showery weather, the yield, generally, will be below the average, but the quality is very good. All truck crops that were not checked by the want of moisture, are in very promising condition. Apples continue promising in well cared for orchards, although the June crop has been excessive in some places.

## MISCELLANEOUS PHENOMENA.

### DATES OBSERVED.

*Fog*.—7th, 13th, 15th, 16th, 17th, Tuckerton; 9th, 15th, Lambertville; 12th, Chester; 12th, 13th, 14th, 15th, 16th, 17th, 21st, Atlantic City; 12th, 14th, Bayonne; 13th, 14th, 15th, Rancocas; 13th, 14th, 15th, 16th, 21st, Cape May; 14th, Hightstown; 14th, 16th, 17th, Canton; 14th, 23d, Oceanic; 14th, 22d, Trenton; 15th, Beverly; 15th, 16th, College Farm; 15th, 16th, 17th, Vineland; 15th, 16th, 21st, Bergen Point; 15th, 16th, 17th, 21st, Asbury Park; 15th, 21st, Phillipsburg; 19th, 20th, Woodbine, 22d, Paterson.

*Hail*.—6th, 26th, Toms River; 22d, Trenton, Bayone, Newark; 27th, Rancocas, Beverly, Moorestown, Indian Mills.

*Solar Halo*.—10th, Phillipsburg.

*Lunar Halo*.—9th, Chester; 11th, 16th, Trenton; 11th, 12th, Beverly; 16th, Somerville; 17th, Bergen Point; 18th, Vineland.

*Distant Thunder*.—2d, 5th, 19th, Lambertville; 2d, 18th, Rancocas; 11th, 19th, 26th, Somerville; 19th, 27th, 28th, Oceanic; 23d, 26th, Cape May C. H.

*Thunderstorms*.—(Number of Stations.)—1st, 1; 2d, 14; 5th, 3; 6th, 21; 7th, 21; 8th, 2; 13th, 2; 19th, 14; 20th, 3; 21st, 7; 22d, 19; 23d, 2; 26th, 1; 27th, 8.

*Rainbow*.—5th, Moorestown; 7th, Rancocas; 5th, 19th, Indian Mills.

Reports received from stations of the River and Flood Service of the U. S. Weather Bureau, located on the Delaware, Passaic, Pequannock and Ramapo Rivers, for the month of June, 1905.

Stations.	County.	River.	Total Precipitation.
Phillipsburg.....	Warren...	Delaware.....	2.27
Trenton.....	Mercer.....	Delaware.....	3.00
Chatham.....	Morris.....	Passaic.....	3.47
Pompton Plains..	Morris.....	Pequannock..	3.25
Mahwah.....	Bergen.....	Ramapo.....	3.89
Little Falls.....	Passaic.....	Passaic.....	4.08



## Climatological Data for New Jersey, June, 1905.

Stations	Counties.	Elevation, feet, Above Sea Level.	Length of record years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.					Sky.			Prevailing direction of wind.	Observer	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from normal.	Greatest in 24 hours.	Total snowfall (unmelted.)	Days with .01 or more.	Number of clear days.	Number partly cloudy days.			Number cloudy days.
The Highlands and Kittatinny Valley.																				
Lynton.....	Sussex.....	550	3	66.0	.....	93	19	36	9	43	2.09	.....	0.28	0	14	17	8	5	sw.	Warren C. Hursh.
Assex.....	Sussex.....	442	10	67.2	-0.9	91	19	40	4	38	2.19	-1.00	0.45	0	12	16	8	6	w.	Prof. W. H. Seeley
Lynton.....	Sussex.....	678	25	66.6	-2.5	90	19	41	4	35	3.69	+0.40	0.74	0	14	14	6	10	sw.	Prof. Chas. J. Major.
Lyndere.....	Warren.....	289	14	68.5	-1.1	94	19	43	4	34	2.78	-1.09	0.58	0	9	19	3	8	.....	Samuel J. Hixson
Charlotteburg.....	Passaic.....	719	12	64.8	-0.9	88	19	35	4	42	3.40	-0.12	1.26	0	9	16	9	5	w.	G. S. Briggs
Over.....	Morris.....	575	19	65.8	-2.0	90	19	43	9	35	5.18	+1.89	1.67	0	15	8	15	12	.....	William C. Harris
Over.....	Morris.....	860	12	65.8	-1.4	93	19	44	9	34	3.18	-0.30	1.75	0	9	8	15	7	se.	Miss Louise DeCamp
Phillipsburg.....	Warren.....	196	1	69.6	-0.9	96	19	15	4	34	2.27	-1.32	0.50	0	12	14	8	8	w.	D. W. Smith.
Average for District.....				66.8	-1.1	.....	.....	.....	.....	.....	3.10	-0.39	.....	0	12	13	9	8	sw.	.....
The Red Sand Stone Plain.																				
Lynton.....	Passaic.....	110	29	69.4	-0.9	90	18	48	2-4	31	3.83	-0.52	0.99	0	16	5	19	6	nw.	H. A. Probert.
Over Vale.....	Bergen.....	70	13	65.2	-3.2	90	18	37	4	41	5.52	+2.35	1.90	0	11	6	6	8	nw.	A. C. Holdrum.
Englewood.....	Bergen.....	135	15	66.6	-2.2	88	22	45	4	31	4.23	+0.71	1.19	0	14	7	9	14	nw.	William C. Tucker, C.E.
Clark.....	Essex.....	140	13	68.6	-0.6	91	18	47	4	30	3.02	-0.58	1.40	0	7	11	10	10	nw.	Prof. G. C. Sonn.
South Orange.....	Essex.....	200	34	67.6	-1.6	90	19	46	4	34	3.66	+0.09	2.02	0	11	10	10	9	sw.	W. J. Chandler, M.D.
New York City.....	New York.....	314	35	68.8	-0.2	90	18	51	8	28	4.18	+1.05	1.19	0	11	7	12	11	w.	U. S. Weather Bureau.
Lynton.....	Hudson.....	50	13	68.5	-1.8	91	19	49	4-9	31	4.20	+0.93	0.90	0	13	11	8	11	w.	John H. Eadie.
Lynton.....	Hudson.....	37	7	67.8	-2.7	89	18-19	48	4-9	29	3.78	+1.10	0.83	0	12	10	15	5	se.	Dr. W. H. Mitchell
Lynton.....	Union.....	100	13	68.2	-1.7	93	18	43	4	35	2.77	-0.85	1.00	0	11	8	16	6	sw.	John Neagle.
Lynton.....	Union.....	33	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Oliver.
Lynton.....	Somerset.....	76	20	68.6	-1.6	93	19	42	4	38	3.08	-0.80	1.12	0	14	8	8	8	sw.	Peter Hardcastle
Lynton.....	Hunterdon.....	187	7	69.4	-1.6	95	19	43	4	37	2.67	-0.39	0.89	0	10	15	10	5	sw.	H. E. Deats.
Lynton.....	Hunterdon.....	95	16	70.2	-0.5	94	19	44	4	34	3.21	-1.02	1.29	0	9	16	7	7	sw.	William R. Bowne.
Lynton.....	Middlesex.....	61	46	70.2	+0.7	94	19	46	4	34	1.99	-1.81	0.49	0	10	10	16	4	sw.	Charles V. Meyers.
Lynton.....	Middlesex.....	100	8	68.3	-1.6	88	11-18	45	4-9	39	1.83	-1.26	0.34	0	10	15	11	4	sw.	Miss J. A. Voorhees.
Average for District.....				68.4	-1.4	.....	.....	.....	.....	.....	8.43	-0.25	.....	0	11	11	11	8	sw.	.....
The Southern Interior.																				
Lynton.....	Mercer.....	60	28	70.2	.....	91	19	50	3	30	2.28	-1.66	0.82	0	7	4	23	3	sw.	E. R. Cook.
Lynton.....	Mercer.....	85	12	68.6	-2.0	92	19	42	4	34	2.53	-0.67	0.85	0	9	5	5	20	sw.	C. M. Norton.
Lynton.....	Monmouth.....	106	17	69.6	-1.8	93	19	47	9	31	1.75	-2.00	0.70	0	5	13	11	6	sw.	F. C. Price, M.D.
Lynton.....	Burlington.....	71	30	68.9	-1.3	91	19-22	45	2	32	2.93	-0.71	1.25	0	12	10	10	10	sw.	John C. Beaus.
Lynton.....	Burlington.....	68	15	.....	.....	.....	.....	.....	.....	.....	3.69	+0.31	1.00	0	11	8	10	12	sw.	Spencer Haines.
Lynton.....	Burlington.....	71	.....	.....	.....	.....	18-19	44	7	27	4.72	.....	1.70	0	13	9	17	4	sw.	Robert D. Cox.
Lynton.....	Ocean.....	54	3	67.1	.....	91	22	44	9	33	4.82	.....	1.98	0	13	12	13	5	sw.	C. A. Roe.
Lynton.....	Burlington.....	76	3	69.6	.....	96	19	40	4	40	3.74	.....	1.05	0	12	13	12	5	sw.	James Armstrong.
Lynton.....	Burlington.....	30	19	69.5	-1.8	94	19	16	9	33	2.24	-1.21	0.52	0	12	4	19	7	w.	C. F. Richardson
Lynton.....	Philadelphia.....	126	7	69.0	-1.0	94	19	52	1	33	1.77	-1.37	0.44	0	12	6	15	9	sw.	U. S. Weather Bureau.
Lynton.....	Gloucester.....	118	32	68.4	-3.7	94	19	41	4	35	3.63	+0.16	0.94	0	9	4	19	3	sw.	W. T. Wilson.
Lynton.....	Camden.....	118	32	68.4	-3.8	95	19	42	2-1	35	4.86	+1.37	1.82	0	13	7	18	5	sw.	Alfred Chalmers.
Lynton.....	Camden.....	30	17	72.4	-1.3	95	6-22	46	9	35	4.51	+0.78	1.45	0	8	17	5	8	sw.	Henry A. Jordan.
Lynton.....	Salem.....	16	3	.....	.....	.....	.....	.....	.....	.....	8.71	.....	3.31	0	12	12	16	2	sw.	W. D. Dickinson.
Lynton.....	Salem.....	16	8	70.4	-1.7	96	19	46	4-9	32	5.84	+2.17	2.10	0	8	15	10	4	w.	Nathan S. DuBois.
Lynton.....	Salem.....	143	11	69.4	-1.8	95	19	43	9	35	5.67	+1.79	2.47	0	11	7	19	4	sw.	H. C. Perry.
Lynton.....	Salem.....	24	2	.....	.....	.....	.....	.....	.....	.....	4.20	.....	1.10	0	9	18	6	6	.....	J. H. Maskell.
Lynton.....	Ocean.....	33	11	68.4	-1.0	94	6-22	40	2-4	41	2.32	-1.38	1.12	0	10	17	8	5	sw.	S. R. Harris.
Lynton.....	Ocean.....	23	7	68.0	-0.8	89	19-26	42	2	34	4.27	-0.04	1.75	0	8	11	13	6	sw.	F. R. Austin.
Lynton.....	Atlantic.....	26	3	.....	.....	.....	.....	.....	.....	.....	3.65	.....	1.35	0	10	17	7	6	.....	Kenneth Allen.
Lynton.....	Cape May.....	43	12	69.2	-0.2	92	19	42	9	31	2.24	-0.89	1.00	0	7	21	4	5	w.	R. H. Merrill.
Lynton.....	Cape May.....	19	16	68.8	-1.3	91	19	44	9	29	1.67	-0.85	0.96	0	6	11	11	8	sw.	L. T. Garretson.
Average for District.....				69.3	-1.5	.....	.....	.....	.....	.....	3.73	+0.29	.....	0	9	11	12	6	sw.	.....
The Sea Coast.																				
Lynton.....	Monmouth.....	14	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	.....	Arthur E. Jewell.
Lynton.....	Monmouth.....	16	17	67.0	-3.5	90	18	48	2-9	29	3.06	-0.71	1.13	0	10	11	13	6	.....	Rev. S. W. Knipe.
Lynton.....	Monmouth.....	22	15	66.6	-2.5	91	6	47	9	34	2.80	-0.86	0.72	0	14	15	8	7	se.	B. H. Obert.
Lynton.....	Atlantic.....	53	30	66.0	-0.8	88	6	48	9	32	2.27	-0.93	0.75	0	11	8	11	11	sw.	U. S. Weather Bureau.
Lynton.....	Cape May.....	11	10	66.7	-1.5	88	6	52	9	30	1.82	-1.35	1.23	0	9	9	16	5	sw.	U. S. Weather Bureau.
Average for District.....				66.6	-2.0	.....	.....	.....	.....	.....	2.49	-0.96	.....	0	11	11	12	7	sw.	.....

Letters of the alphabet denote the number of days missing from the record.

\*\* Not considered; received too late.

\* Thermometers other than standard.

† Trace.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records in stations that have ten or more years of observation.



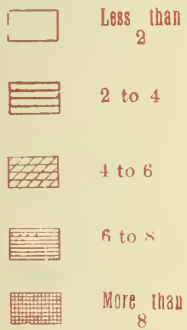
Maximum and Minimum Temperatures for New Jersey, June, 1905.

[illegible]



# TOTAL PRECIPITATION, JUNE, 1905

Scale of Shades—Inches



## Daily Precipitation for New Jersey, June, 1905.

Stations.	Day of month.																															Total.		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
The Highlands & Kittatinny Val.																																		
Layton.....	.26	.06				.16	.20	.04			.13	.27	.11							.28		.12	.26	.12	.03								2.0	
Sussex.....	.40	.06				.20	.25	.03			.10	.20								.13	.14	.21	.45	.02									2.1	
Newton.....	.52	.22				.36	.24	.08			.08	.28								.12	.15	.15	.74	.55	.05								3.6	
Belvidere.....	.48	.02				.24	.18					.50								.24	.12	.42	.58										2.7	
Charlotteburg.....		.23					*	.46			*	1.26								.30	.18	.65		.32									3.4	
Dover.....	.34					.20	.35	.03			.04	1.26	.08						.07	1.67	.04	.03	.75	.16									5.1	
Chester.....	.30	.05				.35	.40				.06	1.75				.15							.10	.02									3.1	
Phillipsburg.....	.50	.04				.23	.35	.01			†	.50								.03	.02	.01	.40	.03	.15								2.2	
The Red Sand Stone Plain.																																		
Paterson.....	.34	.11		†		.11	.20	.19			.11	.99	.30				†	†		.10	.12	.04	.98	.03	.15								3.8	
River Vale.....	.20	.10				.12	.10	.15			*	1.90								1.40	.32	.18	1.05										5.5	
Englewood.....	.19	.23				.52	.13				1.19								.03	.06	.17	.31	.86	.01	.07								4.2	
Newark.....	.19	.12				.51	.35			†	†	.28								.06	.04	.01	1.38	.02	.06								3.0	
South Orange.....	.15	†				.43	.40				†	.35								.25													3.6	
New York City.....	.09	.56				.34	.79				1.19								†	.02	.24	.20	.69	†	.04								4.1	
Bayonne.....	.20	.46		†		.57	.90	.01			†	.83	†							.02	.23	.24	.60	.04	.07								4.4	
Bergen Point.....	.20	.46				.45	.71	.03			†	.83								.03	.11	.23	.37	.04	.12								3.7	
Plainfield.....	.29	.08				.53	.54	.03			†						†			.04		.10	.97	.03	.13								2.7	
Elizabeth.....																																		
Somerville.....	.15	.03				.35	.52	.03				.68					†					†	1.12	.12	.08								3.0	
Flemington.....	.32	.06				.19	.34	†			.01	.50					†					†	.89	.17	.16								2.6	
Lambertville.....	.33	.08				.60	*	.13			†	.50																					3.5	
New Brunswick.....	.22	.17				.49	.25	.05			†	.23					†																1.5	
College Farm.....	.23	.17				.28	.26	.07				.27											.04	.34	.10	.07							1.2	
The Southern Interior.																																		
Trenton.....		.29		†	†	.17	.24					.45									†	.09	.82	†	†								2.2	
Hightstown.....		.05				.34		†				.38							.37	.07		.05	.85	†	.03								2.1	
Imlaystown.....		.16		†		.17	.18					.70											.54											1.1
Moorestown.....	.02	.18				.01	.80	.46	†			.63	†		.02						†		.42	.12	†	.19							2.2	
Rancocas.....	.63	.21		.03	†	.75	.25					.73			.15							.50	.12	†	.20								3.0	
Browns Mills.....	.02	.16	.01	.02	.54	.47	.02					1.04								1.70		.02	.59	.06	.07								4.1	
Lakewood.....	.11	.14				.17	.43	.04				1.00	1.98								.06	.05	.31	.06									4.1	
Indian Mills.....	.12	.16			.04	*	.62					1.05								.64	.04	.30	.18	.46									3.1	
Beverly.....	.06	.41		.01	.01	.26	.26	†			†	.43			.52																		2.2	
Philadelphia, Pa.....	.06	.28		.02	.01	.13	.37	†			†	.44			.01	†	†			†	†	.08	.14	†	.20								1.1	
Clayton.....		.03			.39	.80	.69					.94																					3.1	
Vineyard.....	.11			†	.33	*	1.82	.03			.02	1.10								.28		.09	.22		.51								4.1	
Bridgeton.....	.08				.18	1.45	.21					.90					†					.25	.52	†	.92								4.1	
Woodstown.....		.02		.05	*	1.68	.12					2.58						.02				.38	.47	3.31	.05								8.1	
Salem.....	†				†	*	2.05	.22				10.21											.17	.84	.36								5.1	
Friesburg.....	.57					2.47	.02				.05	1.00						.02				*	.22	.86	.43								5.1	
Canton.....		.04			.10		.78	.11				1.10											.75		.66	.45							4.1	
Toms River.....	.03	.05				.41	*	.09				1.12								†	.02		.02		.24								2.1	
Tuckerton.....	.17		.22			.10	*	.50				1.75																					4.1	
Pleasantville.....	.06	.16			.03	*	1.35					.77								†			.10	.34	.64								3.1	
Woodbine.....					.10	*	1.00					.20																					2.1	
Cape May C. H.....	.06		.05	†		.08	.96					.30																					1.1	
The Sea Coast.																																		
Sandy Hook.....																																	3.1	
Oceanic.....		.14				1.13	.25	.06				.57	†								.38	.16	.29	.05	.03								3.2	
Asbury Park.....	.09	†	.17			.29	.44	.09				.72								.55	.09	.05	.11	.09	.02								2.1	
Atlantic City.....	†	.21				.06	.16	.61				.09	.40							.04	.09	.07		.19	.37								2.1	
Cape May City.....	†			†		.10	.05	1.23	†			†	.19	.02																			1.1	

\* Precipitation included in that of following day.

† Trace, when precipitation is less than 0.01 inch.



51.05  
NNJ

U. S. DEPARTMENT OF AGRICULTURE.

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REPORT FOR JULY, 1905.

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NEW JERSEY SECTION  
OF THE  
CLIMATE AND CROP SERVICE  
OF THE  
WEATHER BUREAU.

IN COOPERATION WITH THE  
NEW JERSEY STATE WEATHER SERVICE.

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

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UNDER DIRECTION OF  
WILLIS L. MOORE,  
CHIEF U. S. WEATHER BUREAU,

BY

EDWARD W. McGANN,  
SECTION DIRECTOR.



ATLANTIC CITY, N. J.:  
WEATHER BUREAU OFFICE.

AUGUST 19th, 1905.

MONTHLY MEAN ISOTHERMS AND PREVAILING DIRECTION OF WIND, JULY, 1905.





U. S. DEPARTMENT OF AGRICULTURE,

# CLIMATE AND CROP SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION.

EDWARD W. McGANN, Section Director.

VOL. XVIII.

ATLANTIC CITY, N. J.

No. 7.

### PROGRESS OF THE CROP SEASON.

ATLANTIC CITY, N. J., July 5, 1905.

The weather conditions that prevailed during the week ending Monday, July 3d, were very favorable to the harvesting of wheat, rye and grass; much of the former is now in shock in the fields and considerable of the latter has been housed in fine condition, but the yield was greatly shortened by drought. Some fields of timothy have been cut in the Southern Section and secured in fine condition. All growing crops are advancing nicely, but an all-day rain would be of great benefit now, as some crops are suffering for the lack of moisture. Apples continue promising in the well cared for orchards; grapes, melons, sweet potatoes and tomatoes, although backward, are doing well since the warmer weather. The showers during the first and latter days of the week were generally light and insufficient.

The following are the total rainfalls reported for the week, in inches, and do not include the showers of Sunday last: Paterson, 0.06; Bayonne, 0.05; Asbury Park, 0.09; Hightstown, 0.34; Lambertville, 0.23; New Brunswick, Somerville, T; Flemington, 0.03; Cape May, 0.04; Bridgeton, 0.10; Toms River, 0.34; Moorestown, 0.04; Lakewood, 0.01; Vineland, 0.35; Friesburg, 0.03; Canton, 0.21; Pleasantville, 0.20; Beverly, 0.04; Atlantic City, 0.41.

ATLANTIC CITY, N. J., July 11, 1905.

The temperature during the week was slightly above the normal. The maximum ranging from 75 to 90 degrees and the minimum from 63 to 70 degrees. Light showers were quite general in all sections on the 3d and in portions of the Northern Section on the 5th and 8th. The rainfall for the week was largely deficient in all sections. Fine harvest weather prevailed and much hay and grain were housed in fine condition. The former is below the average yield but the quality is good. Threshing of wheat was begun in the Southern Section. Oats are ripening and promise an unusually large yield, but the straw is short. Truck crops are in fair

condition, but would be greatly benefited by rain, especially in the Central Section, where growth and development have been greatly checked for want of moisture. Apples, both early and late, continue promising, although excessive dropping was reported from some places.

The following are the total rainfalls reported for the week, in inches: Phillipsburg, 0.18; Bayonne, 0.53; Sussex, 0.23; New Brunswick, 0.52; Lambertville, 0.07; Rowlands Mills, 0.81; Lakewood, 0.27; Canton, 0.04; Beverly, 0.41; Cape May, 0.47; Moorestown, T; Mickleton, 0.67; Asbury Park, 0.05; Atlantic City, 0.01.

ATLANTIC CITY, N. J., July 18, 1905.

The temperature during the week has averaged about three degrees above the normal. The rainfall was near the average in all sections except the Central, which includes the counties of Monmouth, Mercer, Middlesex, Union and Hunterdon. In these counties the precipitation was generally light and very unevenly distributed. All truck crops where the rainfall was sufficient, are in fine growing condition; corn, potatoes, peppers, tomatoes and melons have made a fine growth and are now very promising. In the Central Section crops have been seriously affected by the long drought. Apples and peaches are clinging to the trees and developing nicely. Cranberries are in full bloom and the crop is more promising than earlier in the season.

The following are the total rainfalls reported for the week, in inches: Layton, 0.79; Branchville, 1.63; Belvidere, 1.09; Phillipsburg, 1.08; South Orange, 0.61; Bayonne, 0.67; Newark, 0.75; Paterson, 0.18; Lambertville, 0.91; Somerville, 0.38; Flemington, 0.55; New Brunswick, 0.23; Trenton, 0.86; Plainfield, 1.43; Rowlands Mills, 0.52; Rancocas, 1.75; Moorestown, 1.56; Friesburg, 1.07; Canton, 0.60; Pleasantville, 0.48; Lakewood, 0.97; Bridgeton, 1.29; Cape May, 0.91; Atlantic City, 0.21; Asbury Park, 2.73.

ATLANTIC CITY, N. J., July 25, 1905.

The temperature during the week averaged about eight degrees above the normal, making it the warmest week of the season. The maximum temperature on the 17th, 18th and 19th ranged from 95 to 100 degrees. Only widely scattered showers occurred until Saturday, Sunday and Monday, when good soaking rains fell in all sections. Previous to Saturday, all vegetation suffered severely from drought; corn was wilting and rolling badly and pasture fields were turning yellow; cisterns and wells were going dry and in some cases hauling water for stock was necessary. Apples in places were dropping freely owing to lack of moisture, and the potato crop was greatly shortened by the absence of sufficient moisture at the critical period of development.

The week was favorable for the completion of the harvesting of hay, wheat and rye; these crops were all housed in excellent condition. The cutting of oats was nearing completion at the close of the week.

The following are rainfalls reported for the week ending Friday, the 21st: Dover, 0.45; Newark, 0.03; Bayonne, 0.01; Asbury Park, 0.14; Phillipsburg, 0.15; Bergen Point, 0.01; Plainfield, 0.15; Flemington, 0.11; Rowlands Mills, 0.08;

Hightstown, 0.16; Pleasantville, 0.12; Beverly, 0.19; Canton, 0.33; Lakewood, 0.17; Toms River, 0.49; Bridgeton, 0.25; Moorestown, 0.12; Rancocas, 0.22; Friesburg, 0.34; Cape May, 0.04. The following are the total rainfalls up to Monday morning, the 24th: Trenton, 0.80; New Brunswick, 0.41; Lambertville, 0.46; Somerville, 0.53; Atlantic City, 0.89.



### METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF JULY, 1905.

The mean temperature for the State, 74.4°, is 0.4° above the normal, and 2.1° above the mean for the corresponding month of 1904.

The means for the various districts were as follows: The Highlands and Kittatinny Valley, 72.8°; Red Sand Stone Plain, 74.8°; Southern Interior, 75.2°; Sea Coast, 73.4°.

The highest monthly mean was 77.2°, at Bridgeton, Cumberland County, and the lowest, 70.9°, at Charlotteburg, Passaic County.

The highest temperature recorded was 102°, at Somerville, Somerset County, on the 18th, and the lowest, 42°, at Layton, Warren County, on the 26th, and at Charlotteburg, Passaic County, on the 26th and 27th. Range for the State, 60°.

The normal temperature for the month is 74.0°. The following table shows the mean temperature for the State for the month of July since 1887:

1887.....77.1	1896.....75.0
1888.....71.1	1897.....74.1
1889.....73.4	1898.....75.3
1890.....72.5	1899.....74.7
1891.....70.1	1900.....75.9
1892.....74.3	1901.....77.3
1893.....73.9	1902.....73.0
1894.....75.7	1903.....73.3
1895.....70.9	1904.....72.3
	1905.....74.4

### PRECIPITATION, IN INCHES.

The precipitation was very unequally distributed and came in the form of local thunder showers. Some portions of all sections received an excess and others a marked deficiency.

The average for the month for all (49) reporting stations was 4.06, which was 0.81 below the average for the corresponding month of 1904.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 3.77; Red Sand Stone Plain, 5.05; Southern Interior, 3.32; Sea Coast, 4.31.

The largest amount recorded was 8.19, at Plainfield, Union County, and the least, 1.67, at Atlantic City, Atlantic County.

The departure from normal for the month, as determined by a comparison of current values of thirty-one stations having a record of ten or more years with their normals, is -0.95.

The normal precipitation for the month is 5.01. The following table shows the average total precipitation for the State for the month of July since 1887:

1887.....7.67	1896.....5.50
1888.....3.50	1897.....11.42
1889.....10.19	1898.....4.96
1890.....5.62	1899.....5.75
1891.....5.30	1900.....1.74
1892.....4.03	1901.....5.87
1893.....2.72	1902.....4.78
1894.....1.66	1903.....5.51
1895.....4.26	1904.....4.87
	1905.....4.06

### WIND AND WEATHER.

The prevailing direction of the wind was from the south-west.

The average number of days in which precipitation equalled 0.01 inch was 12. The average number of clear days was 12; partly cloudy, 13; cloudy, 6.



### MISCELLANEOUS PHENOMENA.

#### DATES OBSERVED.

*Thunderstorms.*—(Number of Stations.)—1st, 1; 2d, 10; 3d, 1; 5th, 1; 7th, 2; 8th, 20; 9th, 10; 10th, 24; 11th, 20; 12th, 10; 13th, 25; 14th, 6; 15th, 2; 18th, 10; 19th, 17; 20th, 10; 21st, 1; 24th, 5; 26th, 6; 27th, 1; 28th, 3; 29th, 15; 30th, 19; 31st, 11.

*Distant Thunder.*—2d, Phillipsburg; 18th, Paterson; 10th, 11th, 19h, 30th, Lambertville; 10th, 18th, 30th, Trenton; 18th, 30th, Hightstown, Tuckerton; 13th, 30th, Cape May C. H.; 18th, 29th, Oceanic.

*Hail.*—13th, Asbury Park; 19th, 30th, Rancocas; 19th, Beverly; 28th, near Chester; 30th, Hightstown.

*Lunar Corona.*—15th, Bergen Point.

*Lunar Halo.*—10th, Trenton.

*Solar Halo.*—6th, Indian Mills; 1st, 16th, Moorestown; 1st, 6th, Rancocas; 21st, Sandy Hook, Vineland.



Reports received from stations of the River and Flood Service of the U. S. Weather Bureau, located on the Delaware, Passaic, Pequannock and Ramapo Rivers, for the month of July, 1905.

Stations.	County.	River.	Total Precipitation.
Phillipsburg.....	Warren.....	Delaware.....	2.69
Trenton . . . . .	Mercer.....	Delaware.....	2.44
Chatham.....	Morris.....	Passaic.....	2.22
Pompton Plains..	Morris.....	Pequannock..	2.02
Mahwah.....	Bergen.....	Ramapo.....	3.55
Little Falls.....	Passaic.....	Passaic.....	4.63



## Climatological Data for New Jersey, July, 1905.

Stations.	Counties.	Elevation, feet. Above Sea Level.	Length of record years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.					Sky.				Prevailing direction of wind.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from normal.	Greatest in 24 hours.	Total snowfall (unmelted.)	Days with .01 or more.	Number of clear days.	Number partly cloudy days.	Number cloudy days.		
The Highlands and Kittatinny Valley.																				
ton.....	Sussex.....	550	3	71.4	.....	95	17-18	42	26	40	3.06	.....	0.73	0	13	20	9	2	sw.	Warren C. Hursh.
sex.....	Sussex.....	442	10	73.2	+0.6	96	18	49	26-27	31	3.47	-2.68	1.00	0	11	17	10	4	sw.	Prof. W. H. Seeley.
ton.....	Sussex.....	678	25	72.6	-0.1	93	17-19	47	27	35	6.08	+1.95	1.31	0	14	10	11	10	sw.	Prof. Chas. J. Majory.
rdere.....	Warren.....	289	14	74.4	+0.9	96	18	50	26-27	34	1.10	-1.62	1.13	0	13	14	8	9	.....	Samuel J. Hixson.
rlotteburg.....	Passaic.....	719	12	70.9	+0.6	93	18	42	26-27	38	3.66	-1.88	1.05	0	12	15	15	1	sw.	G. S. Briggs.
er.....	Morris.....	575	19	71.8	+0.3	95	18	47	26-27	35	5.57	+0.03	2.00	0	16	4	14	13	.....	William C. Harris.
ster.....	Morris.....	860	12	72.6	+0.9	95	18	48	29	33	5.27	+0.97	2.05	0	13	10	18	7	se.	Miss Louise DeCamp.
ilpsburg.....	Warren.....	196	1	75.6	+1.1	98	18	53	26-27	34	2.69	-2.22	0.57	0	14	16	9	6	sw.	D. W. Smith.
Average for District.....				72.8	+0.9	.....	.....	.....	.....	.....	3.77	-1.66	.....	0	13	13	11	7	sw.	
The Red Sand Stone Plain.																				
erson.....	Passaic.....	110	29	75.8	+1.6	99	18	56	26-27	32	5.17	-0.15	3.20	0	13	3	25	3	nw.	H. A. Probert.
er Vale.....	Bergen.....	70	13	72.4	-0.5	99	17	45	26-27	42	3.90	-0.87	2.10	0	9	21	7	3	sw.	A. C. Holdrum.
lewood.....	Bergen.....	135	15	72.8	-0.6	95	18	54	26	28	6.32	-0.49	2.53	0	14	12	6	13	se.	William C. Tucker, C.E.
ark.....	Essex.....	140	13	74.8	+0.7	97	18	56	27	29	6.27	+1.79	3.03	0	11	8	11	12	w.	Prof. G. C. Sonn.
h Orange.....	Essex.....	200	34	73.9	+0.9	96	18	53	27	30	4.58	-0.85	2.82	0	10	12	10	9	se.	W. J. Chandler, M.D.
York City.....	New York.....	314	35	75.4	+1.9	96	18	61	27	25	6.01	+1.75	2.74	0	14	5	17	9	se.	U. S. Weather Bureau.
onne.....	Hudson.....	50	13	75.0	-0.2	98	18	57	26	29	5.26	-0.28	2.14	0	14	9	14	8	se.	John H. Eadie.
gen Point.....	Hudson.....	37	7	74.6	-0.6	97	18	55	26	38	5.90	0.00	2.56	0	10	9	21	1	se.	Dr. W. H. Mitchell.
nfield.....	Union.....	100	13	74.9	+0.1	98	18	51	26	34	8.19	+2.33	4.48	0	12	8	18	5	sw.	John Neagle.
abeth.....	Union.....	33	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. Oliver.
erville.....	Somerset.....	76	20	74.9	0.0	102	18	51	27	34	5.03	+0.14	2.30	0	10	16	7	8	s.	Peter Hardcastle.
nington.....	Hunterdon.....	187	7	75.8	-0.1	100	18	50	27	38	3.25	-2.77	0.67	0	14	19	6	6	sw.	H. E. Deats.
bertville.....	Hunterdon.....	95	16	75.7	+1.2	98	18	53	26-27	38	2.95	-2.36	0.57	0	14	17	9	5	sw.	William R. Bowne.
Brunswick.....	Middlesex.....	61	46	76.8	+2.7	100	18	54	27	35	3.69	-1.23	1.50	0	10	5	22	4	sw.	Charles V. Meyers.
age Farm.....	Middlesex.....	100	8	74.6	-1.1	100	18	51	27	41	4.23	-2.47	1.88	0	10	17	13	1	nw.	Miss J. A. Voorhees.
Average for District.....				74.8	+0.7	.....	.....	.....	.....	.....	5.05	-0.19	.....	0	12	12	13	6	sw.	
The Southern Interior.																				
ton.....	Mercer.....	60	28	77.0	.....	96	18	60	26-27	27	2.44	-3.09	0.66	0	7	2	22	7	sw.	E. R. Cook.
stown.....	Mercer.....	85	12	73.7	-1.7	97	18	50	28	39	3.37	-1.74	0.66	0	12	9	9	13	sw.	C. M. Norton.
ystown.....	Monmouth.....	106	17	75.9	+0.6	97	18	56	26	28	2.87	-2.78	0.73	0	10	14	13	4	sw.	F. C. Price, M.D.
restown.....	Burlington.....	71	30	75.2	+0.8	96	18	55	26-27	29	2.85	-1.70	0.99	0	12	9	14	8	sw.	John C. Beans.
ocas.....	Burlington.....	68	15	.....	.....	.....	.....	.....	.....	.....	3.63	-2.02	1.20	0	13	10	9	12	se.	Spencer Haines.
vn's Mills.....	Burlington.....	71	.....	72.4	.....	99	18	48	26-27	37	2.56	.....	0.53	0	14	11	17	3	sw.	Alex. MacElwee.
wood.....	Ocean.....	54	3	73.2	.....	95	18	53	26	29	6.16	.....	2.36	0	15	13	15	3	s.	C. A. Roe.
an Mills.....	Burlington.....	76	3	75.4	.....	100	18	51	26	35	2.20	.....	0.50	0	12	15	11	5	sw.	James Armstrong.
arly.....	Burlington.....	30	19	6.2	+0.8	99	18	54	27	30	2.27	-2.84	0.57	0	11	10	17	4	sw.	C. F. Richardson.
delphia, Pa.....	Philadelphia.....	35	35	76.9	.....	98	18	62	23	33	3.11	.....	1.28	0	12	7	13	11	sw.	U. S. Weather Bureau.
ton.....	Gloucester.....	126	7	74.7	-1.8	97	18	51	26	32	3.18	-2.12	1.29	0	10	.....	.....	.....	sw.	W. T. Wilson.
land.....	Cumberland.....	118	32	75.0	-1.8	98	18	52	26	33	3.59	-1.03	0.77	0	10	11	15	5	sw.	Alfred Chalmers.
geton.....	Cumberland.....	30	17	77.2	-0.3	100	18	57	26	30	4.79	-0.08	1.25	0	13	14	5	12	sw.	Henry A. Jorden.
stown.....	Salem.....	16	3	.....	.....	.....	.....	.....	.....	.....	3.26	.....	1.10	0	9	.....	.....	.....	.....	W. D. Dickinson.
n.....	Salem.....	16	8	75.9	-0.9	98	18	53	26	32	3.63	-0.62	1.20	0	7	13	15	3	w.	Nathan S. DuBois.
sburg.....	Salem.....	143	11	75.0	-1.9	98	18	54	26	30	4.22	-0.03	0.84	0	16	11	16	2	s.	H. C. Perry.
on.....	Salem.....	24	2	.....	.....	.....	.....	.....	.....	.....	5.16	.....	1.22	0	11	15	11	5	.....	J. H. Maskell.
s River.....	Ocean.....	33	11	75.0	+0.7	100	18	47	27	40	2.61	-2.92	0.73	0	12	16	10	5	se.	S. R. Harris.
erton.....	Ocean.....	23	7	74.6	-0.2	100	18	52	26	32	2.14	-1.56	0.43	0	10	10	17	4	sw.	F. R. Austin.
santville.....	Atlantic.....	26	3	.....	.....	.....	.....	.....	.....	.....	2.34	.....	0.63	0	10	18	10	3	.....	Kenneth Allen.
lbine.....	Cape May.....	43	12	74.6	+0.6	99	18	54	27	30	2.49	-1.32	0.83	0	8	20	6	5	w.	R. H. Merrill.
May C. H.....	Cape May.....	19	16	75.4	+1.4	97	18	58	26	25	4.12	+0.15	1.79	0	9	14	11	6	sw.	L. T. Garretson.
Average for District.....				75.2	+0.2	.....	.....	.....	.....	.....	3.32	-1.43	.....	0	11	12	13	6	sw.	
The Sea Coast.																				
y Hook.....	Monmouth.....	14	1	74.5	.....	99	18	60	23	24	5.53	.....	1.65	0	17	7	10	14	se.	Arthur E. Jewell.
nic.....	Monmouth.....	16	17	73.2	-1.7	95	19	57	26-27	27	5.53	-0.74	1.88	0	16	12	17	2	sw.	Rev. S. W. Knipe.
ry Park.....	Monmouth.....	22	15	73.0	+0.1	100	18	57	26	27	5.82	+0.41	1.49	0	15	9	9	13	se.	B. H. Obert.
otic City.....	Atlantic.....	53	30	73.4	+1.5	99	18	61	26	24	1.67	-1.76	0.54	0	9	10	10	11	sw.	U. S. Weather Bureau.
May City.....	Cape May.....	11	10	73.0	-0.6	92	19	63	4	24	2.98	-0.35	0.68	0	10	7	22	2	s.	U. S. Weather Bureau.
Average for District.....				73.4	+0.1	.....	.....	.....	.....	.....	4.31	-0.30	.....	0	13	9	14	7	sw.	

Letters of the alphabet denote the number of days missing from the record.

\*\* Not considered; received too late. \* Thermometers other than standard. † Trace.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records of stations that have ten or more years of observation.



[illegible]



TOTAL PRECIPITATION, JULY, 1905.



## Daily Precipitation for New Jersey, July, 1905.

Stations.	Day of month.																																Total.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
The Highlands & Kittatinny Val.																																	
Layton.....	.04	.28	.73					.05		.03	.18		.48										.10	.15				.04	.30	.24	.49	3.06	
Sussex.....	.19	.15	.23					.05		.60	.22	.07							†				.05	.09					.82	1.00	3.47		
Newton.....		.43	.46					.15		1.31	.50	.19	.90	.09								.15	.05					.23	.78	.39	.45	6.08	
Belvidere.....		.38	.20					.24			.12	.58	.13	.35						.04			.19	.03				.32	1.13	.39		4.10	
Charlotteburg.....	.58							1.05		.15	.04		.52	.08					.15				.35					*	.14	*	.60	3.66	
Dover.....		.95				.03	.03	.02	†		.02	.26	.34	.30				.46		.01		.25	.06				*	2.00	*	.82	5.57		
Chester.....	.02	.90			†		.02			.01	.10	†		.35						.20		*	1.62					*	*	2.05	5.27		
Phillipsburg.....		.42	.08		.02	.08		†		.57	.29	.06	.16	†	.07					.09			.32	.09					.14	.30		2.69	
The Red Sand Stone Plain.																																	
Paterson.....	.06	.14	.34					†	†	†	.04	†	.02	.12	.16								.28	.03		.62		†	.30	3.20	.46	5.17	
River Vale.....		.34								.12	.08	.18											.10	.20					.36	2.10	.42	3.90	
Englewood.....	.06	.17						.19	.37	2.53	.09	.09		.03						.09			.47	.06				†	.03	1.73	.41	6.32	
Newark.....	.05	.47						.86		†	.56		.19	.03						†			.50	.10					.10	8.03	.38	6.27	
South Orange.....	†	.27						.13		†	.23	.34	.04							†			.35	.20				†	.10	2.82	.10	4.58	
New York City.....	.04	.17				†	.01	.25	†	2.56	.22	.05	†	.01					†	.13	†		.50	.04				†	.02	1.62	.39	6.01	
Bayonne.....	.02	.16	.03			†		.53	†	.82	.18		.04		.01				.01	†		.43	.03			†		.03	2.14	.83	5.26		
Bergen Point.....	.10	.18	.04			.02	1.40		.34	.28										†		.43					†			2.56	.55	5.90	
Plainfield.....		.28	.25				.22			.07	.09	1.05	†	.06						.15			.36	†				†	3.14	1.34	1.18	8.19	
Elizabeth.....																																	
Somerville.....	.10	.17	.35				.08	†		.30	†	.06								†			.53	†				†	2.30	.60	.54	6.03	
Flemington.....	†	.27	.67		†	†		.10	.05	.22	†	.27	.11							.11	†		.35	.03				.16	.08	.55	.28	3.25	
Lambertville.....	†	.57	.07				.07		.33	.33	.18		.20						.03		.04		.03	.43	†			.16	.46	.05		2.95	
New Brunswick.....	†	.17	.52				†	†		.20	†	.03	†						†		†		.40	.06			.01		1.50	.24	.56	3.69	
College Farm.....	†	.26	.49			†				.10	.12	†								†			.52	.11		.05			.42	1.46	.70	4.23	
The Southern Interior.																																	
Trenton.....	†	.58						†		†	.66		.20	†							.04		.16	.60				†	†		.20	2.44	
Hightstown.....	.06	.38	.26							.66		.48	.14							†			.16	.58				†	.02	.28	.30	.05	3.27
Imlaystown.....	.01	.72								.52		.34							.41				*	.73	.06						.08	2.87	
Moorstown.....	.09	.34	†				†	.01		†	.98		.57		†					†	.02	.10	.14	.47	.06		.01			.05	*	2.85	
Rancocas.....	.12	.45						†		.10	.45	†	1.20							†	.10	.12	.25	.40	.10				.10	.14	.10	3.63	
Browns Mills.....	.06	.26	†					.01		.08	.53		.50	†				.45	.08	.01		.08	.16	.06			†		†	.01	.27	2.56	
Lakewood.....	.40	.31	.18	.09				2.36		.72		.25							.03	.14		.09	.63	.05					.04	.81	.03	6.16	
Indian Mills.....	.16	.45					.11		.05	.37		.50							.09	.09		.12		.17					.05	.04		2.20	
Beverly.....	.08	.41	†				†	†		.43	†	.33	†		.01			.18	.01		.20	.57	.02						.01	.03	†	2.27	
Philadelphia, Pa.....	.02	.38			†	†	†			1.28	.13	.43	.01	†					.01		.22	.48	.06			†		†	.10	†	.02	3.11	
Clayton.....		.62					.04		.46	.12	.07	1.29							.01		.30	.05	.22									3.13	
Vineland.....	.44	.33					†	.17		†	.22		.77						.21	†		.28	.06	.64					.47			3.59	
Bridgeton.....	†	.67					.52		.24	.30	.10	.56		.03						.20		.22	.20	1.25					.25	.25		4.79	
Woodstown.....	1.07	.02				.15	1.10													.21		.25	.26					.08	.12			3.26	
Salem.....		1.20			.15	†				†	.66			†					.43	†		.33	.71						†	.15		3.63	
Friesburg.....		.68	.04			.06	.57		.34	.10	.06	.57							.17	.17		.22	*	.84					.11	*	.29	4.22	
Canton.....	.72				.04	.48	.13			†	.60								.33	.10		.63		1.22					.83		.08	5.16	
Toms River.....		.50				.01	†		.73	.37		.17						*	.46	.03			.28	.03					.02	.01	†	2.61	
Tuckerton.....	.42	.17					†			.20		.07							.23			.05	.43	.27					.03			.27	2.14
Pleasantville.....	.21	.07				.12				.10		.26							.12			.20	.53	.63					.10		†	2.34	
Woodbine.....	.10		.10			.05						.55								.30	.35	.83							.21			2.49	
Cape May C. H.....	.06		.55				†			.04		1.79										.35		.66	.02				.12	.53		4.12	
The Sea Coast.																																	
Sandy Hook.....	.53	.18	.18			†	.03	.21	.56		.05		.34	†	.17						.03		.01	.57	.36		.07			.07	1.65	.52	5.53
Oceanic.....	.15	.19	.10				.11	.03	.06	.04		.87			.05					.10		†	1.14	.57	†	.12			.07	1.88	.05	5.53	
Asbury Park.....	.10	.42	.05				.20	.03	.03	1.18	.03	1.49								*	.14		.03	.69	†		†		.09	1.11	.28	5.82	
Atlantic City.....	.30	.04				.01	†			.10	†	.11								†			.26	.28	.52				.05			1.67	
Cape May City.....	†	.47					.01		†	.22	†	.68								.04			.64	.01	.45		†		.38	.08		2.98	

\* Precipitation included in that of following day.

† Trace, when precipitation is less than 0.01 inch



54.05  
NJ  
U. S. DEPARTMENT OF AGRICULTURE.

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REPORT FOR AUGUST, 1905.

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NEW JERSEY SECTION  
OF THE  
CLIMATE AND CROP SERVICE  
OF THE  
WEATHER BUREAU.

IN COOPERATION WITH THE  
NEW JERSEY STATE WEATHER SERVICE.

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

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UNDER DIRECTION OF  
WILLIS L. MOORE,  
CHIEF U. S. WEATHER BUREAU,

BY

EDWARD W. McGANN,  
SECTION DIRECTOR.



ATLANTIC CITY, N. J.:  
WEATHER BUREAU OFFICE.

SEPTEMBER 16, 1905.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATE AND CROP SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

## NEW JERSEY SECTION.

EDWARD W. MCGANN, Section Director.

VOL. XVIII.

ATLANTIC CITY, N. J.

No. 8.

## PROGRESS OF THE CROP SEASON.

ATLANTIC CITY, N. J., August 8th, 1905.

Local thunderstorms occurred in some portions of all sections on July 30th, 31st and August 1st and 6th, but were very widely distributed. The droughty conditions continue in some portions of all sections and is seriously affecting vegetation, especially potatoes, corn and field tomatoes. Apples continue dropping in the droughty places and corn was rolling and in some fields scalding. Hauling water for domestic and stock purposes has become a necessity in some places. Early seeded buckwheat is heading nicely, and is in very promising condition. The oat harvest has been completed and the crop housed in fine order, and a good yield of grain is promised, but the straw is short. The harvesting of meadow and marsh hay is progressing in the Southern Section.

The following table shows the total normal rainfall in inches for the months of March, April, May, June and July, together with the actual for the same period and the total deficiency from March 1st, to July 31st, 1905:

Stations.	Normal.	Actual.	Deficiency.
Sussex .....	20.23	12.70	-7.53
Belvidere .....	21.02	13.73	-7.29
Lambertville .....	21.77	13.67	-8.10
Camdenville .....	19.91	15.06	-4.05
New Brunswick .....	20.21	14.12	-6.09
Trenton .....	21.49	12.84	-8.65
Moorestown .....	18.64	14.45	-4.19
Camden .....	19.63	19.61	-0.02
Cape May .....	17.13	13.55	-3.58
Atlantic City .....	16.63	14.76	-1.87

ATLANTIC CITY, N. J., August 15th, 1905.

Heavy rains have fallen in all sections of the State, but more needed in portions of Warren, Sussex, Hunterdon, Mercer and Middlesex Counties to replenish the springs and streams and to insure good yields of the late crops which have been greatly stimulated and improved: fall plowing which was much delayed by the drought is now progressing.

Watermelons, cantaloupes and cucumbers are being marketed; cranberries have made a good growth and are more promising; pears, except Keiffer, will be a light crop; sweet potatoes are growing nicely and a good yield is expected. The outlook for field tomatoes is not promising, the frequent showers followed by hot sunshine have caused the fruit to ripen

prematurely in some fields; these conditions too, have been unfavorable to the maturing grapes, some rotting was reported.

Threshing of wheat, rye and oats is progressing and yields, so far, are up to the average.

The following are the total rainfalls in inches for the week ending Saturday, the 12th instant:

Layton, 0.91; Branchville, 1.12; Sussex, 0.44; Bergen Point, 0.50; Phillipsburg, 0.80; Newark, 1.07; South Orange, 1.21; Asbury Park, 1.57; Rowlands Mills, 1.28; Plainfield, 2.25; Lambertville, 1.95; New Brunswick, 0.93; Trenton, 0.69; Rancocas, 1.38; Bridgeton, 2.29; Pleasantville, 2.68; Lakewood, 1.56; Beverly, 2.43; Cape May, 3.63; Atlantic City, 3.05.

ATLANTIC CITY, N. J., August 22d, 1905.

The week ending Saturday, August 19th, was characterized by very destructive thunderstorms in widely separated places, on 13th and 15th. They were especially severe in portions of Burlington, Middlesex and Somerset counties, where hail and high winds did considerable damage to crops and farm property. Much fruit was blown from the trees in portions of Burlington County, and some fields of corn were prostrated. The latter half of the week was unusually cool, retarding the maturing crops. The rains were highly beneficial and sufficient the ground being thoroughly soaked.

Corn, buckwheat and truck crops generally have been greatly benefited and improved; tomatoes, in the Southern Section, will be below the average. The canning houses will begin operations Saturday next, the 26th. Sweet potatoes and melons of all kinds are in good maturing condition. Apples continue dropping in many localities and the prospects are that the crop will be decidedly below the average; peaches, in places, are maturing nicely, while in others very few remain on the trees.

The following are the total rainfalls reported, in inches, for the week ending Saturday, the 19th:

Phillipsburg, 2.45; Belvidere, 1.77; Paterson, 3.63; Bergen Point, 2.11; Branchville, 2.12; Bayonne, 1.85; South Orange, 3.00; Asbury Park, 1.74; Imlaystown, 1.15; Lambertville, 4.68; Bridgeton, 0.57; Pleasantville, 1.27; Lakewood, 1.53; Rancocas, 1.93; Beverly, 3.03; Moorestown, 2.58; Hightstown, 2.39; Trenton, 1.94; New Brunswick, 2.75; Charlotteburg, 1.96; Newark, 2.28; Atlantic City, 0.67.

ATLANTIC CITY, N. J., August 29th, 1905.

The temperature during the week was slightly below the normal, the first and last two days being unusually cool, the temperature falling to 49 degrees in some places, while the middle of the week was warm and pleasant. The warmest days were the 22d, 23d and 24th, when the maximum temperature ranged from 88 to 94 degrees.

Corn is steadily improving and the early planted is earing well. Garden truck crops are in good growing condition, but the cool weather retarded those maturing; sweet potatoes are very promising and lima beans are improving; all kinds of melons are going freely to market and the quality is better than last year. Late round potatoes will be about the average in some places in the Southern, but in Middle and Northern sections the outlook is for not more than one-half of an average crop, principally owing to the long drought in July and the

heavy rains following, causing a second growth in many fields. Apples continue dropping and the prospects for a fair yield are growing less as the season advances; late peaches and Keiffer pears are developing nicely and will be a fair crop. Early peaches are being shipped to market from some places. The harvesting of a very light second crop of hay is progressing, and the cutting of early seeded buckwheat begun.

The following are the total rainfalls reported, in inches, for the week ending Saturday, August 26th:

Newark, 0.88; Phillipsburg, 1.32; Plainfield, 1.60; Trenton, 1.35; Lambertville, 1.25; New Brunswick, 1.21; Lakewood, 0.25; Bridgeton, 2.50; Beverly, 2.04; Moorestown, 1.08; Atlantic City, 2.11; Cape May, 2.68; Layton, 2.69; Branchville, 1.62; Bayonne, 1.40; South Orange, 1.53.



Reports received from stations of the River and Flood Service of the U. S. Weather Bureau, located on the Delaware, Passaic, Pequannock and Ramapo Rivers, for the month of August, 1905.

Stations.	County.	River.	Total Precipitation.
Phillipsburg.....	Warren...	Delaware.....	4.79
Trenton.. .....	Mercer.....	Delaware.....	4.73
Chatham.....	Morris.....	Passaic.....	5.69
Pompton Plains..	Morris.....	Pequannock..	5.98
Mahwah.....	Bergen.....	Ramapo.....	3.55
Little Falls.....	Passaic.....	Passaic.....	4.84



## METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF AUGUST, 1905.

### TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State, 71.1°, is 1.4° below the normal, and 0.3° above the mean for the corresponding month of 1904.

The means for the various districts were as follows: The Highlands and Kittatinny Valley, 68.4°; Red Sand Stone Plain, 71.0°; Southern Interior, 72.1°; Sea Coast, 71.4°.

The highest monthly mean was 74.6, at Bridgeton, Cumberland County, and the lowest, 66.0°, at Charlotteburg, Passaic County.

The highest temperature recorded was 95°, at Bridgeton and Vineland, Cumberland County, on the 7th and 23d, respectively, and at Indian Mills on the 24th, and the lowest, 38°, at Charlotteburg, Passaic County, on the 19th. Range for the State, 57°.

The normal temperature for the month is 72.5°. The following table shows the mean temperature for the State for the month of August since 1887:

1887.....	70.4	1896.....	73.
1888.....	72.5	1897.....	71.
1889.....	69.6	1898.....	74.
1890.....	71.5	1899.....	72.
1891.....	72.8	1900.....	76.
1892.....	73.4	1901.....	73.
1893.....	72.8	1902.....	70.
1894.....	70.9	1903.....	68.
1895.....	74.2	1904.....	70.
		1905.....	71.

### PRECIPITATION, IN INCHES.

The average precipitation for the month for all (43) reporting stations was 5.72, which was 1.66 above the average for the corresponding month of 1904.

The average for the various districts were as follows: The Highlands and Kittatinny Valley, 4.46; Red Sand Stone Plain, 6.11; Southern Interior, 5.80; Sea Coast, 5.90.

The greatest amount recorded was 9.88, at Tuckerton, Ocean County, and the least, 3.51, at Toms River, Ocean County.

The departure from normal for the month, as determined by a comparison of current values of thirty-one stations having a record of ten or more years with their normals, +1.24.

The normal precipitation for the month is 4.48. The following table shows the average total precipitation for the State for the month of August since 1887:

1887.....	3.76	1896.....	1.1
1888.....	6.13	1897.....	4.1
1889.....	5.18	1898.....	5.1
1890.....	4.90	1899.....	4.1
1891.....	5.32	1900.....	2.3
1892.....	3.63	1901.....	9.3
1893.....	6.52	1902.....	3.1
1894.....	2.58	1903.....	6.5
1895.....	2.53	1904.....	6.2
		1905.....	5.2

### WIND AND WEATHER.

The prevailing direction of the wind was from the southwest.

The average number of days on which precipitation equaled 0.01 inch was 12. The average number of clear days was 10; partly cloudy, 10; cloudy, 8.



## MISCELLANEOUS PHENOMENA.

### DATES OBSERVED.

*Thunderstorms.*—(Number of Stations.)—2d, 1; 4th, 1; 5th, 4; 6th, 16; 7th, 4; 8th, 6; 10th, 7; 12th, 14; 13th, 20; 14th, 2; 15th, 17; 16th, 7; 23d, 1; 24th, 10; 25th, 6; 26th, 1; 27th, 1; 29th, 9; 30th, 8; 31st, 6.

*Distant Thunder.*—Bayonne, 6th, 15th, 24th, 30th; Somerville, 24th.

*Hail.*—Moorestown, Somerville, 13th; Newark, Layton, 24th.

*Lunar Halo.*—Trenton, 11th.

*Lunar Corona.*—Vineland, 6th.

*Meteors.*—Trenton, 23d, 29th.



## Climatological Data for New Jersey, August, 1905.

Stations	Counties	Elevation, feet, Above Sea Level.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing direction of wind.	Observers	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from normal.	Greatest in 24 hours.	Total snowfall (unmelted.)	Days with .01 or more.	Number of clear days.	Number partly cloudy days.			Number cloudy days.
The Highlands and Kittatinny Valley.																				
ton.....	Sussex.....	550	3	66.7	.....	88	11-24	43	11-24	28	6.63	.....	1.67	0	12	21	6	4	sw.	Warren C. Hursh.
EX.....	Sussex.....	442	10	68.6	-2.0	88	23	44	19	29	4.11	-0.29	1.17	0	12	16	10	5	w.	Prof. W. H. Seeley.
ton.....	Sussex.....	678	25	67.0	-3.6	92	12	43	19-29	36	3.09	-1.24	1.00	0	8	13	11	7	w.	Prof. Chas. J. Majory.
Idere.....	Warren.....	289	14	70.0	-1.9	90	24	48	19-28	31	3.62	-1.60	0.89	0	7	17	7	7	.....	Samuel J. Hixson.
lotteburg.....	Passaic.....	719	12	68.0	-2.6	88	24	38	19	40	3.67	-1.31	1.90	0	10	16	11	4	sw.	G. S. Briggs.
er.....	Morris.....	575	19	67.6	-2.3	90	24	44	19-28	35	3.95	-1.13	2.16	0	10	0	19	12	.....	William C. Harris.
ster.....	Morris.....	860	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Miss Louise DeCamp
lpsburg.....	Warren.....	196	1	71.4	-0.5	94	24	49	19	34	4.79	+0.15	1.81	0	13	16	8	7	w.	D. W. Smith.
Average for District..				68.4	-1.8						4.46	-0.47		0	11	14	10	7	sw.	
The Red Sand Stone Plain.																				
erson.....	Passaic.....	110	29	71.8	-0.5	92	11	51	17-28	29	4.81	+0.50	1.97	0	10	7	18	6	sw.	H. A. Probert.
or Vale.....	Bergen.....	70	13	68.0	-2.9	89	24	44	19-28	36	4.74	+0.57	1.90	0	9	18	7	6	sw.	A. C. Holdrum.
ewood.....	Bergen.....	135	15	68.6	-4.0	88	11	47	28	28	5.28	+0.60	1.72	0	12	8	7	16	ne.	William C. Tucker, C.E.
ark.....	Essex.....	140	13	71.0	-1.0	91	24	51	19-28	30	5.14	+0.39	1.96	0	11	12	10	9	sw.	Prof. G. C. Sonn.
h Orange.....	Essex.....	200	34	69.5	-1.6	87	11-24	50	28	27	6.02	+0.97	1.75	0	11	14	9	8	w.	W. J. Chandler, M.D.
York City.....	New York.....	314	35	72.2	-0.1	88	11	57	28	20	5.23	+0.53	1.81	0	13	8	12	11	se.	U. S. Weather Bureau
onne.....	Hudson.....	50	13	72.0	-2.4	91	11	52	17-19	27	5.60	+1.01	2.40	0	12	10	11	10	se.	John H. Eadie.
en Point.....	Hudson.....	37	7	71.2	-2.3	90	7-11	52	28	26	4.84	-0.13	1.95	0	12	10	12	9	se.	Dr. W. H. Mitchell
theld.....	Union.....	100	13	71.1	-2.3	90	11-24	49	28	28	7.63	+3.26	2.89	0	18	8	14	9	sw.	John Neagle.
beth.....	Union.....	33	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	M. Oliver.
erville.....	Somerset.....	76	20	71.0	-3.1	91	13	49	18	34	9.37	+5.20	2.34	0	15	13	5	13	se.	Peter Hardcastle
ington.....	Hunterdon.....	187	7	71.3	-2.6	91	23	49	19	31	8.67	+3.95	3.10	0	15	17	7	7	sw.	H. E. Deats.
bertville.....	Hunterdon.....	95	16	72.2	-0.7	90	24	49	19	33	8.07	+3.79	1.87	0	12	18	8	5	s.	William R. Bowne.
Brunswick.....	Middlesex.....	61	46	73.3	-0.9	92	13-24	50	28	32	5.15	+0.92	1.29	0	12	9	15	7	se.	Charles V. Meyers.
ge Farm.....	Middlesex.....	100	8	70.9	-2.5	90	24	49	19-28	31	4.96	+0.17	1.28	0	11	19	6	6	se.	Miss J. A. Voorhees.
Average for District..				71.0	-1.5						6.11	+1.41		0	12	12	10	9	sw.	
The Southern Interior.																				
ton.....	Mercer.....	60	28	73.4	.....	90	24	55	17-28	26	4.73	+0.44	1.72	0	9	3	19	9	sw.	E. R. Cook.
stown.....	Mercer.....	85	12	69.2	-4.4	90	24	47	19-28	34	4.33	+0.53	1.14	0	12	8	7	16	sw.	C. M. Norton.
ystown.....	Monmouth.....	106	17	72.4	-1.2	90	24	51	19	28	4.45	+0.34	2.24	0	10	17	8	6	sw.	F. C. Price, M.D.
estown.....	Burlington.....	71	30	71.6	-0.6	90	4	50	19	30	5.66	+0.49	2.07	0	15	10	10	11	sw.	John C. Beans.
ocas.....	Burlington.....	68	15	.....	.....	.....	.....	.....	.....	.....	4.36	-0.11	1.65	0	11	14	6	11	nw.	Spencer Haines.
ir's Mills.....	Burlington.....	71	.....	70.9	.....	93	24	44	28	33	4.20	.....	1.29	0	14	16	8	7	ne.	Robt. A. Orr.
wood.....	Ocean.....	54	3	70.2	.....	89	24	49	19	24	3.85	.....	0.99	0	13	18	8	5	s.	C. A. Roe.
in Mills.....	Burlington.....	76	3	72.8	.....	95	24	48	28	36	8.02	.....	3.28	0	13	17	8	6	sw.	James Armstrong.
ily.....	Burlington.....	30	19	72.4	-1.2	90	23-24	51	19	32	7.63	+3.00	2.16	0	17	8	16	8	sw.	C. F. Richardson.
delphia, Pa.....	Philadelphia.....	30	35	73.6	.....	90	23	57	20	21	9.57	.....	3.59	0	13	8	10	13	sw.	U. S. Weather Bureau.
on.....	Gloucester.....	126	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Wm. T. Farley.
and.....	Cumberland.....	118	32	72.4	-1.4	95	23	48	20-28	30	5.55	+0.74	1.83	0	10	11	14	6	se.	Alfred Chalmers.
geton.....	Cumberland.....	30	17	74.6	-1.2	95	7	50	20	34	5.72	+1.49	2.05	0	7	12	11	8	sw.	Henry A. Jorden.
istown.....	Salem.....	16	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	W. D. Dickinson.
n.....	Salem.....	16	8	72.2	-3.3	93	23	49	20	30	3.62	-2.26	1.18	0	8	13	10	7	sw.	Nathan S. DuBois.
burg.....	Salem.....	143	11	72.2	-3.0	93	23	49	28	30	4.58	+0.03	1.56	0	11	11	15	5	w.	H. C. Perry.
on.....	Salem.....	24	2	.....	.....	.....	.....	.....	.....	.....	5.11	.....	1.75	0	8	19	8	4	.....	J. H. Maskell.
s River.....	Ocean.....	33	11	71.6	-1.5	92	7-20	42	18	43	3.51	-0.18	1.85	0	10	20	4	7	se.	S. R. Harris.
erton.....	Ocean.....	23	7	70.9	-2.2	91	13	50	28	27	9.88	+4.56	4.15	0	11	12	14	5	sw.	F. R. Austin.
antville.....	Atlantic.....	26	3	.....	.....	.....	.....	.....	.....	.....	7.20	.....	2.95	0	12	18	10	3	.....	Kenneth Allen.
ible.....	Cape May.....	43	12	72.5	-0.4	92	15	50	28	29	5.20	+2.12	2.00	0	5	20	6	5	w.	R. H. Merrill.
May C. H. "B".....	Cape May.....	19	16	73.3	-0.3	88	13-23	52	20-28	27	8.31	+5.22	2.92	0	8	9	16	6	sw.	L. T. Garretson.
Average for District..				72.1	-1.2						5.80	+1.45		0	11	13	10	8	sw.	
The Sea Coast.																				
y Hook.....	Monmouth.....	14	1	72.2	.....	89	11	57	18-19	23	4.78	.....	1.45	0	13	9	8	14	sw.	Arthur E. Jewell.
ile.....	Monmouth.....	16	17	71.0	-2.8	88	11-12	55	25	20	5.24	+0.61	1.98	0	14	13	12	6	sw.	Rev. S. W. Knipe.
ry Park.....	Monmouth.....	22	15	71.2	-1.2	89	7-8	53	28	21	3.81	-0.26	0.85	0	14	15	7	9	ne.	B. H. Obert.
tle City.....	Atlantic.....	53	30	71.8	.....	89	7	56	25	20	6.22	+1.44	2.49	0	13	6	14	11	sw.	U. S. Weather Bureau
May City.....	Cape May.....	11	10	71.6	-1.6	85	30	55	28	19	8.31	+3.54	3.06	0	12	4	24	3	s.	U. S. Weather Bureau.
Average for District..				71.4	-1.4						5.90	+1.34		0	13	10	14	7	sw.	

Letters of the alphabet denote the number of days missing from the record.

\*\* Not considered; received too late.

\* Thermometers other than standard.

† Trace.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records of stations that have ten or more years of observation.



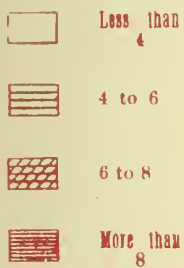
Maximum and Minimum Temperatures for New Jersey, August, 1905.

[illegible]



# TOTAL PRECIPITATION, AUGUST, 1905.

Scale of Shades—Inches



## Daily Precipitation for New Jersey, August, 1905.

Stations.	Day of month.																															Total.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
The Highlands & Kittatinny Val.																																
Layton.....	.35					.30			.29	.04	.28	.07			.91	1.50								1.67	1.02				.15	.05		6.63
Sussex.....	.08					.09			.15		.20	.10	.02		1.17	.65								.45	.90				.20	.10		4.11
Newton.....	.60					.05			.20	.32	.25		.05		1.00	.62																3.09
Belvidere.....						.28			.33				.21		.88	.89									.84						.19	3.62
Charlottesville.....	.18					.05			.24				.06		1.10	.80									.92				.18	.14		3.67
Dover.....	.08					.04			.33		.04		.05		1.08	1.08								1.05					.12	.08		3.95
Chester.....																																
Phillipsburg.....	.02			.05		.38		.02	.33		.07	†	.07		1.29	1.09				.01					1.31				†	.10	.05	4.79
The Red Sand Stone Plain.																																
Paterson.....	†					†		.03	.13	.09		.06	.90		1.97	.70								†	.60				.18	.15		4.81
River Vale.....								.28	.15			.20	.48		1.90	.05									.65				.15	.28		4.74
Englewood.....						.09		.19	.09	.03		.19	1.06		1.72	.14								.08	1.39				.13	.17		5.29
Newark.....	†					.10		.10	.35			.10	.10		1.96	.12								.48	.98				.20	.13		5.14
South Orange.....	†					†		.77	.34	.10	†	.23	.08		1.75	.94								†	1.63				.15	.03		6.02
New York City.....	.01					.14		.16	.06	.01		.16	1.02		1.66	.18								.19	1.34				.16	.14		5.32
Bayonne.....		.01				.45		.23	.09	.04		.16	.08	†	1.11	.74				†				†	2.40	†			.24	.05		5.66
Bergen Point.....	†	†				.10	.04	.23	.10	.03		.10	.15		1.03	.83								1.95					.23	.05	†	4.84
Plainfield.....	.03	†				.07		1.57	.19	.07		.20	.63		1.89	1.03								1.60					.18	.12	.05	7.65
Elizabeth.....																																
Somerville.....	.06					.20	.01	.35	.12	.08	†	.35	2.34	.05	2.12	2.20													.04	.08	.03	9.85
Flemington.....	.10				.13	.35		.10	.20	.27		.07	.23		3.10	2.20									1.70	.02			.06	.06	.08	8.67
Lambertville.....					.43	.40	.04	.75	.20	.13		.62	1.25	†	1.87	.94								†	1.25				.19			8.07
New Brunswick.....	†					.23		.55	.12	.03		.09	.59		.78	1.29									1.21				.12	.11	.03	5.11
College Farm.....	†					.29		.33	.11	.04			.52	.07	.95	1.18								1.28					.09	.10		4.90
The Southern Interior.																																
Trenton.....						.19		.05	.32	.08		.60	.22		1.72	†									1.35				†	.20		4.7
Highstown.....	.16					.44		.04	.31	.09		.58	.20		1.14	.07									.74				.11	.45		4.3
Imlaystown.....	†					.30		.01	†	.46		.19	.32		†	.61									2.24					.29		4.4
Moorestown.....	.03	†				†	1.07	.05	.04	.47	.04	†	.29	2.07	.02	.27	†								1.08	.09			.04	.03	.07	5.6
Rancocas.....	.01				†	.79		.10	.48	.01		.40	1.25		.28	†								1.00					.03	.01		4.3
Browns Mills.....		.01				.22		.07	.63	.06		.36	.09		.29	.05	†							†					.06	.10	.05	4.2
Lakewood.....	.11					.13		.06	.99	.51		.10	.10	.09	.82	.42													.05			3.8
Indian Mills.....						3.02	.26	.10	1.48	.82		.05	.10	.15	.95	†													.22	.11		8.0
Beverly.....	.02				†	.09	1.06	.56	.05	.63	.04		.36	2.13	.03	.49	.02												.03	.01	.07	7.6
Philadelphia, Pa.....	.06		†			1.21	2.74	†	.05	.65	.13	†	.80	1.00		.60	†							†	2.25				.02	.05	.01	9.5
Clayton.....																																
Vineland.....	.03					1.27		.24	1.92	.11		.32	.27		.39														†	†		5.5
Bridgeton.....								.25	1.85	.22		.87		.20	†														†			5.7
Woodstown.....																																
Salem.....							†	†	1.18	.35		.15			.45	.35									.70	.18	.26					3.6
Friesburg.....						1.02	.03	.23	1.56	.26		.24			.48			†											.02	.04		4.5
Canton.....						.12	.66		1.59	.14		.29			.55	†																5.1
Toms River.....						.06		.04	†	1.85	.33		.08	.74	.04																	3.2
Tuckerton.....						2.20	.08	.63	1.00	.15			.33	.37	.45	.07																9.2
Pleasantville.....						.37		.68	2.17	.06		.50	.31		.46																	7.1
Woodbine.....	.01							.35	2.00						.85																	5.1
Cape May C. H.....						.66		.05	2.92	†		.09		1.93	.44	†													†			8.1
The Sea Coast.																																
Sandy Hook.....	.01	†				.08		.03	.64	.37		.29	.51	.01	1.45	.75													.14	.02		4.7
Oceanic.....	.07					.12		.04	.68	.05		.10	.25	.06	1.98	1.05													.22	.03		5.1
Asbury Park.....	†					.18	.14	.03	.83	.39		.03	.48	.10	.28	.85																3.1
Atlantic City.....		.25				.10	.02	.05	2.48	.01		.42	.07		.67	†																6.1
Cape May City.....	†	.04	.04	.01		1.05		.02	2.54	.02		.05	1.17	†	.10																	8.1

\* Precipitation included in that of following day.

† Trace, when precipitation is less than 0.01 inch.



51.05  
VNT

U. S. DEPARTMENT OF AGRICULTURE.

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REPORT FOR SEPTEMBER, 1905.

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NEW JERSEY SECTION  
OF THE  
CLIMATE AND CROP SERVICE  
OF THE  
WEATHER BUREAU.

IN COOPERATION WITH THE  
NEW JERSEY STATE WEATHER SERVICE.

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

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UNDER DIRECTION OF  
WILLIS L. MOORE,  
CHIEF U. S. WEATHER BUREAU,

BY

EDWARD W. McGANN,  
SECTION DIRECTOR.



ATLANTIC CITY, N. J.:  
WEATHER BUREAU OFFICE.

OCTOBER 18, 1905.

MONTHLY MEAN ISOTHERM AND PREVAILING DIRECTION OF WIND, SEPTEMBER, 1905.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATE AND CROP SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION.

EDWARD W. MCGANN, Section Director.

VOL. XVIII.

ATLANTIC CITY, N. J.

No. 9.

## METEOROLOGICAL SUMMARY FOR THE STATE

FOR THE MONTH OF SEPTEMBER, 1905.

The mean temperature for the State,  $65.4^{\circ}$ , is  $0.6^{\circ}$  below the normal and  $0.6^{\circ}$  below the mean for the corresponding month of 1904.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $62.8^{\circ}$ ; Red Sand Stone Plain,  $65.3^{\circ}$ ; Southern Interior,  $66.4^{\circ}$ ; Sea Coast,  $66.9^{\circ}$ .

The highest monthly mean was  $68.4^{\circ}$ , at Bridgeton, Cumberland County, and the lowest,  $61.0^{\circ}$ , at Dover, Morris county.

The highest temperature recorded at any station was  $90^{\circ}$ , at Flemington, Hunterdon County, on the 30th, and the lowest,  $61^{\circ}$ , at Layton, Sussex County, and Charlotteburg, Passaic county, on the 27th. Range for the State,  $62^{\circ}$ .

The normal temperature for the month is  $66.0^{\circ}$ . The following table shows the mean temperature for the State for the month of September since 1887:

1887.....	61.6	1896.....	65.1
1888.....	63.1	1897.....	65.5
1889.....	64.8	1898.....	68.6
1890.....	64.4	1899.....	64.4
1891.....	68.7	1900.....	69.9
1892.....	64.2	1901.....	66.8
1893.....	62.7	1902.....	64.6
1894.....	68.8	1903.....	65.0
1895.....	69.7	1904.....	64.8
		1905.....	65.4

## PRECIPITATION, IN INCHES.

The average precipitation for the month for all (47) reporting stations was 5.23, which is 1.33 above the normal, as determined by comparison of current values of thirty-one stations having records of ten or more years, and 0.44 above the mean for the corresponding month of 1904.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 6.90; Red Sand Stone Plain, 5.98; Southern Interior, 4.42; Sea Coast, 3.55.

The largest amount recorded at any station was 9.18, at

Chester, Morris County, and the least, 2.87, at Atlantic City, Atlantic County.

The largest twenty-four hour falls occurred on the 2d and 3d, as follows: Newton, Sussex County, 5.32; Dover, Morris County, 4.00; Chester, Morris County, 3.10; Englewood, Bergen County, 3.56; Plainfield, Union County, 4.90; Somerville, Somerset County, 3.83.

The normal precipitation for the month is 3.90. The following table shows the average total precipitation for the State for the month of September since 1887:

1887.....	3.66	1896.....	4.37
1888.....	7.09	1897.....	1.65
1889.....	8.36	1898.....	2.00
1890.....	4.75	1899.....	5.88
1891.....	2.46	1900.....	2.86
1892.....	1.81	1901.....	3.38
1893.....	3.20	1902.....	5.65
1894.....	7.46	1903.....	3.34
1895.....	1.07	1904.....	4.79
		1905.....	5.23

## WIND AND WEATHER.

The prevailing direction of the wind was from the northwest.

The average number of days on which precipitation equalled 0.01 inch was 8. The average number of clear days was 16; partly cloudy, 7; and cloudy, 7.



Reports received from stations of the River and Flood Service of the U. S. Weather Bureau, located on the Delaware, Passaic, Pequannock and Ramapo Rivers, for the month of September, 1905.

Stations.	County.	River.	Total Precipitation.
Phillipsburg.....	Warren.....	Delaware.....	5.69
Trenton.. .....	Mercer.....	Delaware.....	4.65
Chatham.....	Morris.....	Passaic.....	7.08
Pompton Plains..	Morris.....	Pequannock..	6.83
Mahwah.....	Bergen.....	Ramapo.....	6.21
Little Falls.....	Passaic.....	Passaic.....	3.54



## MISCELLANEOUS PHENOMENA.

## DATES OBSERVED.

*Thunderstorms.*—(Number of Stations.)—3d, 15; 4th, 16; 18th, 1; 19th, 1; 20th, 21; 21st, 1; 29th, 1; 30th, 1.

*Distant Thunder.*—3d, 4th, Cape May C. H.

*Lunar Halo.*—12th, Atlantic City, Trenton.

*Solar Halo.*—10th, Cape May C. H., Trenton, Oceanic.

*Fog.*—9th, 10th, 11th, 18th, 19th, 20th, 27th, 28th, 30th, Phillipsburg; 9th, 10th, 15th, 26th, 27th, Lambertville.

*First Killing Frost.*—27th, Layton, Dover, Charlotteburg, River Vale; 26th, 27th, Toms River.

Light frost was quite generally observed on the 14th, 15th, 26th, 27th.



ATLANTIC CITY, N. J., September 5th, 1905.

The past week was generally favorable for the maturing crops, although the nights were rather cool. The temperature averaged about 4 degrees above the daily normal, the maximum temperatures ranging from 71 to 81 degrees and the minimum from 41 to 65 degrees. Light local showers occurred on the 29th and 30th of August, and a general rain on the 2d and 3d. The cutting of corn was begun in some places and will be quite general during the ensuing week. Potato digging was brought to a standstill by the heavy rains at the close of the week. The tubers are of good size and quality, but the yield is decidedly below the average, especially in the Central and Northern Sections. All garden truck is in fine growing and maturing condition and pasturage has been greatly improved by the rains; considerable seeding of grain and grass has been done, the ground being in fine condition. In the Southern Section sweet potatoes are most promising and the indications are that the yield will be a large one. Tomatoes are going freely to the canneries. Cranberry picking has begun and the prospects are that the yield will be less than last year. Apples and pears, except, Keiffer, will be below the average in all sections.

The following are the total rainfalls reported in inches for the week ending Saturday, September 2d:

Layton, 0.20; South Orange, 0.18; Bayonne, 0.32; Branchville, 0.30; Charlotteburg, 0.32; Phillipsburg, 0.15; Bergen Point, 0.28; Newark, 1.31; Plainfield, 5.00; Trenton, 0.42; Asbury Park, 0.28; New Brunswick, 1.47; Flemington, 0.22; Pleasantville, 3.24; Friesburg, 0.76; Lakewood, 0.40; Bridgeton, 0.28; Cape May, 0.59; Beverly, 3.15; Atlantic City (including 4th), 0.83.

ATLANTIC CITY, N. J., September 12th, 1905.

The temperature during the week has ranged from 1 to 2 degrees below the daily normal, the maximum temperatures ranging from 60 to 85 degrees, and the minimum from 50 to 69 degrees. No rain has fallen in any of the districts since the 4th, and none is needed, as the ground is well soaked and the wells and streams are full of water. The prevailing weather conditions were favorable for the growth and development of all late truck crops, but the nights were a little too cool for the best development of the late planted corn. The prospects are that if frost holds off, the latter crop will be a full average both in grain and fodder. Plowing and seeding are progressing in places and will be quite general in all sections during the ensuing week. The gathering of tomatoes and potatoes, and other crops are nearing the finish; newly seeded meadows have obtained a good stand, and pasturage in all sections is excellent.

As this is the last bulletin of the season, we extend our

thanks to all correspondents for their valuable services, and hope they will continue their weekly reports for the benefit of the National Bulletin, until the close of the present month, and monthly thereafter.



## PROGRESS OF THE CROP SEASON.

The month was generally favorable for all farming operations and for the maturing of the late crops. Although the very heavy rains on the 2d and 3d retarded plowing and seeding, this work was nearing completion at the close of the month. The heavy frosts on the mornings of the 26th and 27th did very little injury, as most of the tender fruit had been gathered, and the bulk of the corn cut and in shock.

The heavy rains on the 2d and 3d did considerable damage by washing side hills, flooding fields and making the roads impassable. In the vicinity of Plainfield, Union County, three bridges and one large cottage were carried from their foundations and badly wrecked. Rail and trolley roads were crippled by heavy washouts caused by the rushing waters.



## FACTS ABOUT TREES.

**LIFE PROCESSES.**—Trees are living things with vital functions and parts. They have systems of digestion, assimilation and respiration, with specialized organs for carrying on the various processes, much the same as animals. In correspondence with most of the vegetable kingdom, their leaves have the power under the action of sunlight to absorb carbonic acid gas from the air, to break it up, and, with the carbon obtained and water, to form starch. The oxygen is returned to the air unused. The water comes directly from the soil through the roots and stems, and carries in solution mineral compounds which enter into combination with the starch forming the more complex compounds such as the tree can readily utilize. These are drawn away to the branches, stems and roots, there organized into living substance, and made part of the tissues of the tree.

To carry up the supply of minerals from the roots to the leaves, much more water is required than the tree can utilize in the formation of starch. The excess passes off as vapor through the pores of the leaves into the atmosphere, by a process of transpiration.

A tree breathes for the same purpose as an animal. It takes in oxygen and throws off carbonic acid gas. The process is not centered in a special organ, but goes on over all parts of the leaves, branches, and roots. In the leaves the breathing goes on through the pores; in parts of the trunk covered by bark it goes on through the lenticels—the small, light-colored, raised spots plainly seen on the young branches of nearly all trees. Breathing is an entirely separate process from that by which carbonic acid gas is taken in through the leaves and oxygen liberated. It goes on both day and night and at all seasons of the year, though more rapidly in summer than in winter.—WM. L. HALL, in Farmers' Bulletin No. 1.



Climatological Data for New Jersey, September, 1905.

Stations	Counties	Elevation, feet. Above Sea Level.	Length of record years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.			Prevailing direction of wind.	Observers		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from normal.	Greatest in 24 hours.	Total snowfall (unmelted.)	Days with .01 or more.	Number of clear days.			Number partly cloudy days.	Number cloudy days.
Highlands and Kittatinny Valley.																				
on.....	Sussex.....	550	3	61.2	.....	87	30	28	27	41	6.23	.....	2.25	0	7	20	6	4	s.	Warren C. Hursh.
on.....	Sussex.....	442	10	63.4	-1.0	85	30	33	27	36	6.53	+2.33	2.24	0	8	18	5	7	w.	Prof. W. H. Seeley.
on.....	Sussex.....	678	25	62.5	-1.6	86	30	33	27	39	8.60	+5.71	5.32	0	7	19	1	10	w.	Prof. Chas. J. Major.
dere.....	Warren.....	289	14	64.8	-0.8	87	30	35	27	42	4.20	+0.48	1.55	0	7	19	3	8	.....	Samuel J. Hixson.
otteburg.....	Passaic.....	719	12	61.5	-0.8	82	4	28	27	39	6.05	+1.25	?	0	7	13	12	5	.....	G. S. Briggs.
er.....	Morris.....	575	19	61.0	-2.0	87	30	31	27	37	8.73	+1.71	4.00	0	9	5	17	8	.....	William C. Harris.
psburg.....	Morris.....	860	12	62.3	-0.7	88	30	34	27	36	9.18	+1.68	3.10	0	10	11	12	7	.....	Miss Louise DeCamp.
	Warren.....	196	1	65.8	+0.6	88	30	37	27	38	5.69	+1.90	1.46	0	8	16	5	9	w.	D. W. Smith.
verage for District.....				62.8	-0.2						6.90	+2.89	.....	0	8	15	8	7	w.	
The Red Sand Stone Plain.																				
son.....	Passaic.....	110	29	66.4	+0.1	89	30	39	27	36	6.24	+1.38	2.50	0	7	10	14	6	nw.	H. A. Probert.
son.....	Bergen.....	70	13	62.3	-1.5	88	30	29	27	41	5.65	+2.04	1.90	0	7	19	4	7	nw.	A. C. Holdrum.
wood.....	Bergen.....	135	15	62.8	-2.7	84	30	36	27	33	7.58	+4.56	3.56	0	9	13	5	12	se.	William C. Tucker, C.E.
rk.....	Essex.....	140	13	65.7	+0.9	86	30	37	27	33	6.27	+2.44	2.39	0	8	18	1	11	nw.	Prof. G. C. Sonn.
Orange.....	Essex.....	200	34	63.8	-0.1	81	30	36	26-27	31	6.68	+2.64	2.25	0	8	17	4	9	nw.	W. J. Chandler, M.D.
York City.....	New York.....	311	35	66.8	+0.9	84	30	46	26	23	7.11	+3.39	3.58	0	9	12	7	11	nw.	U. S. Weather Bureau
ne.....	Hudson.....	50	13	66.5	-1.7	87	30	41	27	29	5.38	+2.35	2.29	0	10	14	5	11	nw.	John H. Eadie.
on Point.....	Hudson.....	37	7	65.6	-1.7	86	30	39	27	34	6.69	+3.28	2.90	0	10	12	11	7	se.	Dr. W. H. Mitchell.
field.....	Union.....	100	13	65.0	-1.2	86	30	36	26	35	8.49	+1.07	4.90	0	8	15	8	7	nw.	John Neagle.
beth.....	Union.....	33	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	M. Oliver.
rville.....	Somerset.....	76	20	.....	.....	.....	.....	35	26-27	.....	6.97	+3.60	3.83	0	7	17	2	11	nw.	Peter Hardcastle.
ington.....	Hunterdon.....	187	7	65.8	-1.2	90	30	36	27	40	4.36	-0.31	1.56	0	8	20	3	7	w.	H. E. Deats.
ertville.....	Hunterdon.....	95	16	66.2	+0.2	86	30	38	26-27	35	3.98	-0.55	1.35	0	7	20	6	4	nw.	William R. Bowne.
Brunswick.....	Middlesex.....	61	46	67.6	+2.0	89	30	37	27	38	4.66	+0.12	1.40	0	8	16	6	8	se.	Charles V. Meyers.
ge Farm.....	Middlesex.....	100	8	65.0	-1.8	85	30	35	27	38	4.32	+0.52	1.64	0	8	19	6	5	s.	Miss J. A. Voorhees.
verage for District.....				65.3	-0.5						5.98	+1.95	.....	0	8	16	6	8	nw.	
The Southern Interior.																				
on.....	Mercer.....	60	28	67.6	.....	83	30	41	27	32	4.65	.....	2.20	0	7	7	19	4	sw.	E. R. Cook.
stown.....	Mercer.....	85	12	64.0	-3.3	85	30	38	28	45	4.86	+1.25	2.25	0	7	16	3	11	sw.	C. M. Norton.
stown.....	Monmouth.....	106	17	66.2	-0.4	84	30	38	27	32	5.76	+1.31	?	0	7	21	4	5	sw.	F. C. Price, M.D.
stown.....	Burlington.....	71	30	66.0	-0.4	84	29	37	27	35	3.81	+0.39	1.78	0	8	13	7	10	nw.	John C. Beaus.
ocas.....	Burlington.....	68	15	.....	.....	.....	.....	.....	.....	.....	4.05	+0.12	1.68	0	8	18	2	10	nw.	Spencer Haines.
n's Mills.....	Burlington.....	71	.....	65.4	.....	84	3-30	34	27	38	3.95	.....	1.47	0	8	20	4	6	w.	Edw. W. McGann, Jr.
wood.....	Ocean.....	54	3	64.9	.....	85	30	36	27	36	5.30	.....	2.65	0	9	21	5	4	s.	C. A. Roe.
n Mills.....	Burlington.....	76	3	67.2	.....	86	19-30	33	27	42	4.26	.....	2.00	0	8	19	5	6	s.	James Armstrong.
ly.....	Burlington.....	30	19	66.5	-0.5	85	30	3	27	35	4.70	+1.27	2.34	0	7	12	12	6	w.	C. F. Richardson.
Philadelphia, Pa.....	Philadelphia.....	.....	35	68.6	.....	85	30	47	26	24	3.65	.....	1.80	0	7	14	5	11	nw.	U. S. Weather Bureau
on.....	Gloucester.....	126	7	66.6	-1.3	88	19	38	27	34	4.66	+1.57	1.50	0	7	19	4	7	nw.	Wm. T. Farley.
and..... "C".....	Cumberland.....	118	32	67.2	.....	89	19	40	15-26	34	5.65	.....	2.72	0	8	17	9	4	se.	Alfred Chalmers.
eton.....	Cumberland.....	30	17	68.4	-0.4	89	30	40	26-27	37	5.55	+2.21	2.15	0	7	15	8	7	w.	Henry A. Jorden.
stown.....	Salem.....	16	3	.....	.....	.....	.....	.....	.....	.....	5.13	.....	1.36	0	8	19	7	4	sw.	W. D. Dickinson.
l.....	Salem.....	16	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Nathan S. DuBois.
burg.....	Salem.....	143	11	67.0	-1.0	88	19-20	36	27	38	4.77	+1.45	1.56	0	7	21	4	4	w.	H. C. Perry.
on.....	Salem.....	24	2	.....	.....	.....	.....	.....	.....	.....	3.50	.....	1.88	0	7	22	2	6	.....	J. H. Maskell.
River.....	Ocean.....	33	11	65.6	-1.3	89	30	32	27	43	4.19	+0.80	?	0	8	19	4	7	se.	S. R. Harris.
erton.....	Ocean.....	23	7	65.2	-1.2	82	30	34	27	40	4.20	+0.79	1.21	0	8	18	6	6	nw.	F. R. Austin.
antville.....	Atlantic.....	26	3	.....	.....	.....	.....	.....	.....	.....	4.01	.....	1.47	0	10	20	6	4	.....	Kenneth Allen.
bine.....	Cape May.....	43	12	66.4	-0.3	85	20-30	37	27	35	3.07	-1.13	1.02	0	9	19	8	3	w.	Arthur R. Merrill.
May C. H. "L" **.....	Cape May.....	19	16	67.6	-0.3	84	30	39	27	33	3.05	-0.11	0.99	0	6	13	11	6	se.	L. T. Garretson.
verage for District.....				66.4	.....						4.42	+0.65	.....	0	8	17	6	6	nw.	
The Sea Coast.																				
y Hook.....	Monmouth.....	14	1	.....	.....	82	30	40	27	30	3.37	.....	.....	0	.....	.....	.....	.....	.....	Arthur E. Jewell.
ic.....	Monmouth.....	16	17	65.8	-1.9	82	30	40	26	30	3.37	-1.20	1.28	0	12	18	4	8	nw.	Rev. S. W. Knipe.
ry Park.....	Monmouth.....	22	15	67.0	-0.2	82	22	40	26	30	4.49	+1.03	1.65	0	9	17	3	10	se.	B. H. Obert.
tic City.....	Atlantic.....	53	30	67.4	-0.7	86	30	45	26	27	2.87	-0.63	0.98	0	9	12	9	9	s.	U. S. Weather Bureau
May City.....	Cape May.....	11	10	67.3	-0.8	82	30	46	26	23	3.47	-0.11	1.55	0	10	13	13	4	s.	U. S. Weather Bureau.
verage for District.....				66.9	-0.5						3.55	-0.35	.....	0	10	15	7	8	s.	

Letters of the alphabet denote the number of days missing from the record.

\*\* Not considered; received too late. \* Thermometers other than standard. † Trace.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records stations that have ten or more years of observation.



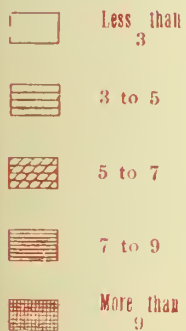
Maximum and Minimum Temperatures for New Jersey, September, 1905.

Date.....	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28		29		30		31		Monthly Mean																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.



TOTAL PRECIPITATION, SEPTEMBER, 1905.

Scale of Shades—Inches



## Daily Precipitation for New Jersey, September, 1905.

Stations.	Day of month.																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
The Highlands & Kittatinny Val.																																	
Layton.....		.10	1.08	2.25							1.20	1.00						.43		.17													6.59
Sussex.....		.40	2.24	.06							1.45	1.05						.60	.14	.09													6.59
Newton.....		.18	5.30	.28							1.20	.41					†	.78	†	.43													6.59
Belvidere.....		.17	1.55	.31							1.02	.23						.48	*	.44													6.59
Charlotteburg.....		*	*	2.84							*	2.04						*	*	.89		.28											6.59
Dover.....		.80	1.50	2.50		.05					2.30					.02	*	1.14		.42													6.59
Chester.....		.91	3.10	.55		.06					2.60		†					1.55		.41													6.59
Phillipsburg.....		.21	1.16	.40							.98	.88						.02	.58	1.46													6.59
The Red Sand Stone Plain.																																	
Paterson.....		.20	1.56	.36		†					.92	1.58				†	†	1.32		.30							†						6.59
River Vale.....			1.90	.32							.90	1.05					.88	.42	.18														6.59
Englewood.....		.19	3.56	.89		†					1.74	.09				†	.19	.67	.06	.19													6.59
Newark.....		.50	1.56	.83							1.57	.02					.26	1.44		.09													6.59
South Orange.....		.30	1.75	.81		.02					2.25	†				†	.35	1.00		.20													6.59
New York City.....		.16	3.43	.81		†					1.84	.03				†	.12	.52	.08	.12													6.59
Bayonne.....		.05	2.29	.63	†	.03					.63	.71					.02	.75	.02	.24													6.59
Bergen Point.....		.18	2.90	.80		.03					.82	.88					.18	.60	.06	.24										†			6.59
Plainfield.....		.35	4.90	.77							1.01	.39				†	.23	.58		.26													6.59
Elizabeth.....																																	6.59
Somerville.....		.17	3.83	.73							.45	.60						.84		.35													6.59
Flemington.....		.33	1.56	.68							.39	.48					†	.75	.02	.15													6.59
Lambertville.....		.33	1.35	.89		.05					.80						†	.30		.26													6.59
New Brunswick.....																																	6.59
College Farm.....		.11	1.64	1.16							.25	.40					.21	.52		.03													6.59
The Southern Interior.																																	
Trenton.....		.22	2.20	0.72							.50						.20	.41		.40													4.42
Hightstown.....		†	2.25	1.09		†					.28	.24					*	.64		.36													4.42
Imlaystown.....		*	*	4.25							.58						*	.55		.38													4.42
Moorestown.....		.03	1.78	.55		†					.57	.25					.05	.56		.02													4.42
Rancocas.....		†	.10	1.68	.78						.70	.08				†	.03	.65		.03													4.42
Browns Mills.....		†	.02	1.44	1.47						.18	.44					.05	.31	†	.04													4.42
Lakewood.....			.13	2.65	.85						.11	.43					.27	.75	.05	.06													4.42
Indian Mills.....			.08	2.00	.40						.32	.62					.07	.37		.40													4.42
Beverly.....			.08	2.34	.96						.53	.36				†	†	.51		.02													4.42
Philadelphia, Pa.....		.12	1.32	1.10			†				.70	.06				†	†	.34		.01													4.42
Clayton.....		*	1.89	.27							*	1.50					*	.48		.52													4.42
Vineland.....		.03	2.72	.59							* 1.35						.01	.43		.52			†										4.42
Bridgeton.....		.08	2.15	.70							.80	.75					†	.55		.52													4.42
Woodstown.....		.40	1.20	1.24							* 1.36							.45		.48													4.42
Salem.....																																	4.42
Friesburg.....		*	1.63	.85							1.66	.08					*																4.42
Canton.....			*	1.88							*	.99					*	.47		.16													4.42
Toms River.....		.54	*	2.17							*	.56					*	.88		.04													4.42
Tuckerton.....		.30	1.21	.96							.10	.48					.30	.29		.56													4.42
Pleasantville.....		.05	.64	1.47	.25						.18	.68					.06	.33		.30	.05												4.42
Woodbine.....		.05	*	1.02							.05	.50					*	.25		1.00													4.42
Cape May C. H.....		†	.54	.80				†			.24	.29					*	.19		.89													4.42
The Sea Coast.																																	
Sandy Hook.....																																	4.42
Oceanic.....		.10	.12	1.28	.63		.06				.10	.25					.04	.48	.05	.22	.22											.04	4.42
Asbury Park.....		†	.18	1.25	1.65	†		†			.14	.44					†	.40		.01													4.42
Atlantic City.....			.03	.44	.90	.08					.75	.02					.13	.14		.38													4.42
Cape May City.....		†	.12	.19	1.55	.05			.06		.34	.10				†	.04	.19		.83													4.42

\* Precipitation included in that of following day.

† Trace, when precipitation is less than 0.01 inch.



551.05  
NJ

U. S. DEPARTMENT OF AGRICULTURE.

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REPORT FOR OCTOBER, 1905.

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NEW JERSEY SECTION  
OF THE  
CLIMATE AND CROP SERVICE  
OF THE  
WEATHER BUREAU.

IN COOPERATION WITH THE  
NEW JERSEY STATE WEATHER SERVICE.

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

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UNDER DIRECTION OF  
WILLIS L. MOORE,  
CHIEF U. S. WEATHER BUREAU,

BY

EDWARD W. McGANN,  
SECTION DIRECTOR.



ATLANTIC CITY, N. J.:  
WEATHER BUREAU OFFICE.

NOVEMBER 17th, 1905.

MONTHLY MEAN ISOTHERM AND PREVAILING DIRECTION OF WIND, OCTOBER, 1905.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATE AND CROP SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION.

EDWARD W. MCGANN, Section Director.

VOL. XVIII.

ATLANTIC CITY, N. J.

No. 10.

## WEATHER AND CROPS.

The month was exceptionally favorable for farming operations, and for the gathering of the late crops, all of which have been secured in fine condition. Wheat, rye and newly seeded meadows have obtained a good stand and are growing nicely, but in a limited area in the Northern Section some stands of wheat are being injured by the fly. Corn husking, owing to the favorable weather, is well advanced, but the yield in some places is not up to expectations. Pasturage continues good and cattle at the close of the month were still grazing. The first killing frost of the season was quite general in the Northern Section, on the morning of the 22d, but did very little injury.



## PENALTY FOR COUNTERFEITING FORECASTS.

Any person who shall knowingly issue or publish any counterfeit weather forecasts or warnings of weather conditions, falsely representing such forecasts or warnings to have been issued or published by the Weather Bureau, or other branch of the Government service, or shall molest or interfere with any weather or storm flag or weather map or bulletin displayed or used by the United States Weather Bureau, shall be deemed guilty of a misdemeanor, and, on conviction thereof, for each offense, be fined in a sum not exceeding five hundred dollars, or be imprisoned not to exceed ninety days, or be both fined and imprisoned, in the discretion of the court.—*See Act of Congress approved March, 3, 1905.*



## EXTRACTS FROM

## REPORTS OF CROP CORRESPONDENTS.

Mayton, Sussex County.—Fine weather all during the month. Killing frosts on the 7th, 28th; wheat and rye look good; potatoes a light crop and rotting; apples gathered but crop light; husking corn almost finished; yield not up to the average.

W. C. HURSH.

Broadway, Warren County.—Weather has been favorable for all late crops. The Hessian Fly is doing some injury to wheat; rye looks well; rains have been beneficial but not sufficient to fill the springs; the yield of corn is below expectations, in the fields good, others poor.

JOHN T. OBERLY.

Gillette, Morris County.—Rye and wheat in fine growing condition, stand good; large acreage sown; corn husking progressing, crop light; potato digging mostly finished, yield light; turnips growing rapidly; apples and pears a fine crop.

R. N. CORNISH.

Piscatawaytown, Middlesex County.—Winter grain looking well; fall seeded meadows have a good stand; fine weather for all late farm work; much corn husked; apples all gathered, crop poor.

W. T. WOERNER.

Kingston, Somerset County.—Wheat and rye in fine growing condition; pasture fields still green and grazing good; excellent crop of late cabbage being shipped.

DR. E. H. BOWNE.

Warrenville, Somerset County.—Wheat, although sown late, looks well; husking corn well advanced, yield good; apple crop light; Kieffer pears good crop; potatoes rotting badly.

HUGO DUNDERSTADT.

Trenton, Mercer County.—Weather very favorable for farm work; no heavy rains or frost did any serious injury; apple crop large; wheat and grass look fine; corn husking progressing, yield large; a fine crop of Kieffer pears gathered.

E. R. COOK.

Rahway, Union County.—All crops housed except corn; husking well along, crop good; grain and grass look very well.

E. L. SMITH.

Titusville, Mercer County.—Weather has been favorable for the drying of corn and maturing late apples; wheat and rye a good stand and growing rapidly; recent rains beneficial.

I. J. BLACKWELL.

Rowlands Mills, Hunterdon County.—The first killing frost occurred on the morning of the 22d; winter grain in excellent growing condition; pasture very good; corn husking progressing, yield about three-fourths of the average; winter apples of fine quality.

J. Q. HOAGLAND.

Moorestown, Burlington County.—The first and only killing frost occurred on the 22d; clover and grass seeded after potatoes have a fine stand; sweet potatoes average less than the normal yield; many winter apple trees were off this year.

JOHN C. BEANS.

Friesburg, Salem County.—The weather during the entire month has been favorable for the gathering of all late crops and for seeding; wheat is looking well; corn and late potatoes have not yielded as well as expected.

H. C. PERRY.

Rancocas, Burlington County.—Grain and fallow sown grass have obtained a good stand; corn all cut and husking well along, yield nearly up to the average; some Kieffer pears and apples yet to gather; cabbage crop, good.

SPENCER HAINES.

Cape May, Cape May County.—Clear and warm weather during the most of the month; heavy frost on the 22d did little damage; plowing and seeding completed; early sown rye a good stand; sweet potato crop large; late white potatoes a short crop.

GEO. L. LOVITT.

Canton, Salem County.—Wheat all up and growing nicely; much corn affected by scald, still the crop is a good one; late round potatoes a fair yield and of good quality; sweet potatoes a good yield; fine weather for husking corn and for farm work.

J. H. MASKELL.

# METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF OCTOBER, 1905.

The mean temperature for the State,  $55.5^{\circ}$ , is  $1.2^{\circ}$  above the normal and  $3.6^{\circ}$  above the mean for the corresponding month of 1904.

The means for the various districts were as follows: Highlands and Kittatinny Valley,  $52.3^{\circ}$ ; Red Sand Stone Plain,  $54.9^{\circ}$ ; Southern Interior,  $56.6^{\circ}$ ; Sea Coast,  $57.6^{\circ}$ .

The highest monthly mean was  $59^{\circ}$ , at Bridgeton, Cumberland County, and the lowest,  $50.8^{\circ}$ , at Charlotteburg, Passaic County.

The highest temperature recorded at any station was  $90^{\circ}$ , at Indian Mills, Burlington County, on the 1st, and the lowest,  $17^{\circ}$ , at Layton, Sussex County, the 27th and 30th. The greatest daily range was  $48^{\circ}$ , at Woodbine, Cape May County. Range for the State,  $73^{\circ}$ .

The normal temperature for the month is  $54.3^{\circ}$ . The following table shows the mean temperature for the State for the month of October since 1887:

1887.....	52.3	1896.....	51.5
1888.....	49.2	1897.....	55.8
1889.....	50.8	1898.....	56.5
1890.....	53.9	1899.....	56.6
1891.....	52.8	1900.....	59.9
1892.....	53.6	1901.....	54.4
1893.....	55.2	1902.....	56.0
1894.....	55.3	1903.....	55.9
1895.....	49.9	1904.....	51.9
		1905.....	55.5

## PRECIPITATION, IN INCHES.

The precipitation during the month was unequally distributed. It was slightly above the normal in the Highlands and Kittatinny Valley, slightly below in the Red Sand Stone Plain and decidedly below in the remaining districts. The deficiency ranging from 0.54 to 2.59 inches in southern portions of the State.

The average for the month, 2.71, is 0.95 below the normal, as determined by comparison of current values of thirty-one stations having records of ten or more years, and 1.07 below the mean for the corresponding month of 1904.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 3.82; Red Sand Stone Plain, 2.87; Southern Interior, 2.40; Sea Coast, 1.93.

The greatest amount recorded at any station was 4.83, at Newton, Sussex County, and the least, 0.75, at Woodbine, Cape May County.

The normal precipitation for the month is 3.66. The following table shows the average total precipitation for the State for the month of October since 1887:

1887.....	2.61	1896.....	2.24
1888.....	4.73	1897.....	2.43
1889.....	3.80	1898.....	5.76
1890.....	6.33	1899.....	2.72
1891.....	3.44	1900.....	3.70
1892.....	0.52	1901.....	1.93
1893.....	4.22	1902.....	6.39
1894.....	5.67	1903.....	8.92
1895.....	3.60	1904.....	3.78
		1905.....	2.71

## WIND AND WEATHER.

The prevailing direction of the wind was from the west.

The average number of days on which precipitation equalled 0.01 inch was 7. The average number of clear days, 18; partly cloudy, 7, and cloudy, 6.



## MISCELLANEOUS PHENOMENA.

### DATES OBSERVED.

*Thunderstorms.*—2d, Phillipsburg; 3d, Hightstown, Moorestown, Beverly, Indian Mills, Toms River.

*Distant Thunder.*—2d, Trenton.

*Meteor.*—13th, Bayonne.

Table showing dates of last killing frost in spring and first killing frost in autumn for the season of 1905.

Stations	Last Killing in Spring	First Killing in Autumn	Stations	Last Killing in Spring	First Killing in Autumn
Layton.....	May 24	Sept. 27	Trenton.....	April 19	Oct. 13
Sussex.....	May 2	Oct. 22	Hightstown.....	May 2	Oct. 22
Newton.....	May 21	Sept. 27	Imlaystown.....	May 2	Oct. 22
Belvidere.....	May 21	Oct. 22	Moorestown.....	April 19	Oct. 22
Charlotteburg.....	May 30	Sept. 14	Rancocas.....	April 19	Oct. 22
Dover.....	May 2	Sept. 26	Brown's Mills.....		Sept. 27
Chester.....	May 2		Lakewood.....	May 2	Oct. 22
Phillipsburg.....	April 19	Oct. 22	Indian Mills.....	May 2	Oct. 22
Paterson.....	April 19	Oct. 13	Beverly.....	April 19	Oct. 22
River Vale.....	May 22	Sept. 27	Clayton.....	May 2	Oct. 22
Englewood.....	April 19	Oct. 22	Vineland.....	May 2	Oct. 22
Newark.....	April 19	Oct. 27	Bridgeton.....	April 19	Oct. 22
South Orange.....	May 2	Oct. 27	Salem.....		
Bayonne.....	May 2	Oct. 22	Friesburg.....	April 19	Oct. 22
Bergen Point.....	May 2	Oct. 27	Toms River.....		Sept. 26
Plainfield.....	May 2	Oct. 22	Tuckerton.....	May 2	
Elizabeth.....	April 19		Woodbine.....	April 24	Oct. 8
Somerville.....	May 2	Oct. 22	Cape May C. H.....	May 21	Oct. 22
Flemington.....	May 2	Oct. 22	Sandy Hook.....	April 17	
Lambertville.....	May 2	Oct. 12	Oceanic.....	April 19	
New Brunswick.....	May 2	Oct. 22	Asbury Park.....	April 19	
College Farm.....	May 2	Oct. 22	Atlantic City.....	April 19	
			Cape May.....	April 3	



Reports received from stations of the River and Flood Service of the U. S. Weather Bureau, located on the Delaware, Passaic, Pequannock and Ramapo Rivers, for the month of October, 1905.

Stations.	County.	River.	Total Precipitation.
Phillipsburg.....	Warren.....	Delaware.....	4.09
Trenton.....	Mercer.....	Delaware.....	2.54
Chatham.....	Morris.....	Passaic.....	3.00
Pompton Plains.....	Morris.....	Pequannock.....	2.91
Mahwah.....	Bergen.....	Ramapo.....	3.43
Little Falls.....	Passaic.....	Passaic.....	2.79



## Climatological Data for New Jersey, October, 1905.

Stations	Counties	Elevation, feet, Above Sea Level.	Length of record years.	Temperature, in degrees Fahrenheit.					Precipitation, in inches.					Sky.			Prevailing direction of wind.	Observers		
				Mean.	Departure from the normal.	Highest.	Date	Lowest.	Date	Greatest daily range.	Total.	Departure from normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Days with .01 or more.	Number of clear days.			Number partly cloudy days.	Number cloudy days.
Highlands and Kittatinny Valley.																				
Oil Springs	Sussex	550	3	51.0	.....	87	1	17	27-30	43	3.55	.....	1.37	0	6	24	3	4	w.	Warren C. Hirsch.
Oil Springs	Sussex	442	10	51.0	+1.2	85	1	26	30-31	36	2.43	-0.66	1.10	0	4	21	3	5	w.	Prof. W. H. Seeley.
Oil Springs	Sussex	678	25	52.0	+0.3	89	1	22	26	39	4.83	+1.22	3.06	0	7	20	6	5	n.	Prof. Chas. J. Majory.
Oil Springs	Warren	289	14	52.7	-0.5	87	1	26	30	39	4.15	+0.97	1.80	0	7	17	4	6	.....	Samuel J. Hixson.
Oil Springs	Passaic	719	12	50.8	-0.4	83	9	19	27	45	4.31	+0.27	2.15	0	7	18	9	4	.....	G. S. Briggs.
Oil Springs	Morris	575	19	51.0	+0.1	81	9	25	22	39	3.35	-0.03	1.58	0	8	5	18	8	.....	William C. Harris.
Oil Springs	Morris	860	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Miss Louise DeCamp.
Oil Springs	Warren	196	1	54.6	+1.9	88	1	29	27-30	37	4.09	+0.96	1.53	0	8	19	4	8	w.	D. W. Smith.
Average for District				52.3	+0.5						3.82	+0.12		0	7	18	7	6	w.	
The Red Sand Stone Plain.																				
Oil Springs	Passaic	110	29	56.4	+2.6	86	9	31	27	34	3.10	-0.47	1.86	0	8	15	13	3	w.	H. A. Probert.
Oil Springs	Bergen	70	13	51.6	-1.6	82	9	25	31	44	1.48	-2.16	0.82	0	5	23	2	6	nw.	A. C. Holdrum.
Oil Springs	Bergen	135	15	53.8	-0.4	78	5-9	31	30	29	3.11	-0.95	1.32	0	16	4	11	11	w.	William C. Tucker, C.E.
Oil Springs	Essex	140	13	55.4	+2.0	83	9	30	27-31	32	2.91	-0.63	1.55	0	19	6	6	6	sw.	Prof. G. C. Sohn.
Oil Springs	Essex	200	34	59.2	+0.5	78	9	32	27-31	27	3.07	-0.26	1.70	0	7	17	5	9	w.	W. J. Chandler, M.D.
Oil Springs	New York	314	35	56.9	+1.9	80	9	37	27	22	2.67	-0.84	1.60	0	15	10	6	6	w.	U. S. Weather Bureau
Oil Springs	Hudson	50	13	55.8	-0.4	86	9	31	27	33	2.49	-0.80	1.57	0	16	7	8	7	w.	John H. Eadie.
Oil Springs	Hudson	37	7	55.4	-1.7	82	9	32	27-31	30	2.70	-1.96	1.50	0	13	13	5	5	sw.	Dr. W. H. Mitchell.
Oil Springs	Union	100	13	53.6	+0.7	84	9	29	22-31	36	2.64	-1.22	1.49	0	9	14	12	5	sw.	John Neagle.
Oil Springs	Union	33	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	.....	M. Oliver.
Oil Springs	Somerset	76	20	54.5	+0.1	85	9	26	31	36	3.24	+0.16	1.80	0	17	2	12	12	sw.	Peter Hardcastle.
Oil Springs	Hunterdon	187	7	55.6	-0.9	86	9	29	27-31	38	3.21	-0.05	1.66	0	7	20	5	6	w.	H. E. Deats.
Oil Springs	Hunterdon	95	16	55.4	+1.5	86	1	28	30	35	3.61	+0.29	1.61	0	7	22	4	5	sw.	William R. Bowne.
Oil Springs	Middlesex	61	46	56.7	+2.2	85	9	30	31	37	3.01	-0.41	1.56	0	8	16	13	2	w.	Charles V. Meyers.
Oil Springs	Middlesex	100	8	54.8	-1.2	85	1	27	31	36	2.99	-0.60	1.55	0	8	21	7	3	.....	Miss J. A. Voorhees.
Average for District				54.9	+1.1						2.87	-0.60		0	8	18	7	6	w.	
The Southern Interior.																				
Oil Springs	Mercer	60	28	57.6	.....	82	1	33	27	35	2.54	-1.33	1.19	0	5	8	19	4	sw.	E. R. Cook.
Oil Springs	Mercer	85	12	53.0	-1.6	80	5	28	27-31	40	2.73	-1.22	1.07	0	6	16	5	9	sw.	C. M. Norton.
Oil Springs	Monmouth	106	17	56.5	+1.5	81	41	32	27	32	3.79	-0.64	2.20	0	7	16	9	6	sw.	F. C. Price, M.D.
Oil Springs	Burlington	71	30	56.3	+2.2	87	1	29	31	35	3.84	+0.44	2.27	0	8	17	8	6	w.	John C. Beans.
Oil Springs	Burlington	68	15	.....	.....	.....	.....	.....	.....	.....	4.43	+0.66	2.64	0	7	19	7	5	nw.	Spencer Haines.
Oil Springs	Burlington	71	.....	54.0	.....	84	1	25	31	38	3.21	.....	1.65	0	6	19	8	4	w.	Edw. W. McGann, Jr.
Oil Springs	Ocean	54	3	55.8	.....	81	5	29	31	37	2.20	.....	1.16	0	5	26	1	4	e.	C. A. Roe.
Oil Springs	Burlington	76	3	56.8	.....	90	1	28	22	42	2.43	.....	0.95	0	6	17	10	4	nw.	James Armstrong.
Oil Springs	Burlington	30	19	55.9	+1.4	87	1	29	31	36	3.84	+0.36	2.05	0	7	17	10	4	nw.	C. F. Richardson.
Oil Springs	Philadelphia	.....	35	57.9	.....	86	1	36	27	29	4.07	.....	2.09	0	8	13	11	7	sw.	U. S. Weather Bureau
Oil Springs	Gloucester	126	7	57.0	-0.8	87	1	31	31	35	1.78	-2.02	1.20	0	3	19	7	5	nw.	Wm. T. Farley.
Oil Springs	Camden	118	32	56.7	+1.5	89	1	28	22	39	1.24	-2.20	0.43	0	6	20	4	7	w.	Alfred Chalmers.
Oil Springs	Camden	30	17	59.0	+2.2	89	1	30	22	40	1.61	-2.59	0.60	0	5	20	3	8	sw.	Henry A. Jorden.
Oil Springs	Salem	16	3	.....	.....	.....	.....	.....	.....	.....	1.39	.....	0.56	0	5	12	15	4	nw.	W. D. Dickinson.
Oil Springs	Salem	16	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Nathan S. DuBois.
Oil Springs	Salem	143	11	56.7	-1.2	87	1	29	22	38	2.60	-1.82	0.88	0	6	14	14	3	s.	H. C. Perry.
Oil Springs	Salem	24	2	.....	.....	.....	.....	.....	.....	.....	1.56	.....	0.90	0	3	22	4	5	.....	J. H. Maskell.
Oil Springs	Ocean	33	11	56.0	+1.2	87	9	25	31	42	2.22	-1.94	0.75	0	8	21	3	7	nw.	S. R. Harris.
Oil Springs	Ocean	23	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	F. R. Austin.
Oil Springs	Atlantic	26	3	.....	.....	.....	.....	.....	.....	.....	0.89	.....	0.47	0	6	21	5	5	.....	Kenneth Allen.
Oil Springs	Cape May	43	12	57.4	+1.3	85	1	31	22	28	0.75	-3.09	0.30	0	4	25	3	3	w.	Arthur R. Merrill.
Oil Springs	Cape May	19	16	58.1	+1.5	84	1	32	22	35	1.39	-2.31	0.80	0	3	15	11	5	nw.	L. T. Garretson.
Average for District				56.6	+1.4						2.40	-1.36		0	6	18	8	5	nw.	
The Sea Coast.																				
Oil Springs	Monmouth	14	1	57.3	.....	82	9	37	27	26	2.53	.....	1.51	+	8	17	5	9	w.	Arthur E. Jewell.
Oil Springs	Monmouth	16	17	56.8	+1.5	80	5	34	31	27	2.31	-2.02	1.35	0	7	19	7	5	sw.	Rev. S. W. Knipe.
Oil Springs	Monmouth	22	15	57.6	+2.2	83	5	36	23-31	28	2.45	-1.72	1.57	0	6	18	5	8	w.	B. H. Obert.
Oil Springs	Atlantic	53	30	57.6	+1.3	83	1	35	22	28	1.02	-2.27	0.44	0	5	12	10	9	nw.	U. S. Weather Bureau
Oil Springs	Cape May	11	10	58.7	-0.2	82	1	40	22	20	1.32	-2.26	0.64	0	5	14	11	6	w.	U. S. Weather Bureau.
Average for District				57.6	+1.1						1.93	-1.91		0	6	16	8	7	w.	

Letters of the alphabet denote the number of days missing from the record.

\* Not considered; received too late. \* Thermometers other than standard. † Trace. ‡ Also on other dates.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records of stations that have ten or more years of observation.



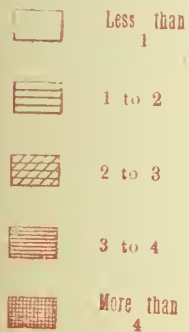
Maximum and Minimum Temperatures for New Jersey, October, 1905.

Date.....	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28		29		30		31		Monthly Mean																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min



TOTAL PRECIPITATION, OCTOBER, 1905.

Scale of Shades—Inches



## Daily Precipitation for New Jersey, October, 1905.

Stations.	Day of month.																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
The Highlands & Kittatinny Val.																																	
Layton			.15								.85	1.37						.02		.91					.05								3
Sussex			.22								.68	1.03						†		1.10													2
Newton			.26								1.05	.30							*	3.06				.06	.10								4
Belvidere			.29								1.03	.64							.13	1.80				.08	.18								4
Charlotteburg			.30								*	2.15							*	1.75				*	.11								
Dover			.15								*	1.49							.04	*	1.58				.05	.04							
Chester																																	
Phillipsburg			.43								1.23	.30							.04	.32	1.53			†	.11	.13							
The Red Sand Stone Plain.																																	
Paterson			.02								.12	.83						.03	.02	1.84		†		†	.06	.18							
River Vale			.16								*	.50							*	.82													
Englewood		.03	.09								.93							.07	.53	1.32				.01	.13								
Newark		†	.14								.49	*						.01	.57	1.55				.01	.14								
South Orange			.16								*	.85						†	.20	1.70				*	.16								
New York City		.01	.06								.82							.02	.49	1.11				.03	.13	†							
Bayonne			.12								.37	.21	†					.03	.06	1.51			†	†	.09	.10							
Bergen Point		†	.19								.46	.23						.05	0	1.50				†	.10	.12							
Plainfield			.20								.55	.10						.04	.25	1.24				.01	.14	.11							
Elizabeth																																	
Somerville			.38								.33	.43						.04	.06	1.80					.05	.15							
Flemington		†	.38								.40	.40						.09	.05	1.66				†	.23								
Lambertville			.58								*	.98						.03	.03	1.61				†	.36								
New Brunswick			.39								.20	.60						.03	.03	1.56				†	.07	.13							
College Farm			.43								.14	.56						.04	.03	1.55					.06	.18							
The Southern Interior.																																	
Trenton			.26								.70							†	.80	.39				†	.39								
Hightstown			.27								.93								.08	1.05				.03	†	.35							
Imlaystown			.65								*	.58							*	2.20					*	.36							
Moorestown		.01	.53								.23	.36						†	.02	2.27				†	.11	.31							
Rancocas		†	.63								.75							.01	.50	2.14				.01	.39								
Browns Mills			.70								.05	.35								1.65				†	.03	.43							
Lakewood											*	.73							*	1.16				†		.31							
Indian Mills			.51								.43							†		.95					.09	.45							
Beverly			.53								.70	.04						†	.06	2.05				†	.28	.18							
Philadelphia, Pa.		.48	.18								.92							†	1.39	.71				.01	.37	.01							
Clayton			.23								.35									1.20													
Vineland			.18								*	.43						†	†	.21					.12	.30							
Bridgeton			.22								.36									.43					.40	.20							
Woodstown			.05								.56								.13	.23					.42								
Salem																																	
Friesburg			.25								.37								.03	.88					*	.47							
Canton			.18								.48								*							.90							
Toms River			.71									.53							*	.75				*	*	.23							
Tuckerton																																	
Pleasantville			.11								.10	.11							†	.10					.12	.35							
Woodbine			.20								*	.30								.25													
Cape May C. H.			†								.80								†	.05				†	†	.54							
The Sea Coast.																																	
Sandy Hook			.24								.24	.31						.01	.06	1.51				†	.07	.09							
Oceanic			.21								.02	.44							.05	1.35					.06	.18							
Asbury Park			.21									.40						†	†	1.57					.11	.16							
Atlantic City			.17								.34								†	.07				†	.31	.13							
Cape May City			.04								.64								†	.09	†			†	.34	.21							

\* Precipitation included in that of following day.

† Trace, when precipitation is less than 0.01 inch.



U. S. DEPARTMENT OF AGRICULTURE.

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REPORT FOR NOVEMBER, 1905.

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NEW JERSEY SECTION  
OF THE  
CLIMATE AND CROP SERVICE  
OF THE  
WEATHER BUREAU.

IN COOPERATION WITH THE  
NEW JERSEY STATE WEATHER SERVICE.

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

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UNDER DIRECTION OF  
WILLIS L. MOORE,  
CHIEF U. S. WEATHER BUREAU,

BY

EDWARD W. McGANN,  
SECTION DIRECTOR.



ATLANTIC CITY, N. J.:  
WEATHER BUREAU OFFICE.  
DECEMBER 18th, 1905.





U. S. DEPARTMENT OF AGRICULTURE,

# CLIMATE AND CROP SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION.

EDWARD W. McGANN, Section Director.

XVIII.

ATLANTIC CITY, N. J.

No. 11.

### WEATHER AND CROPS.

The prevailing weather conditions during the month were generally favorable for the rapid advancement of all outdoor work; corn was all husked and stored in the crib in good condition, and plowing, although difficult, owing to the hardness of the soil, was nearly completed. The great lack of irrigation has somewhat impaired the stand of wheat, rye and grass. In some places it is not sufficiently well rooted to stand the winter's freezing and thawing. Wheat sown in October, in some places in the Southern Section, has not germinated owing to the long drought. Springs and wells are unusually low, and some have gone dry, necessitating the hauling of water for stock purposes. Copious rains on the 28th and 29th, have to some extent relieved these conditions in the Central and Northern sections, but in the extreme Southern Section and along the Sea Coast, the drought continues.

—O—

A new station has been established at Jersey City, with Mr. J. K. Pearson as the coöperative observer. Observations began on December 1st.

—O—

Professor C. J. Majory, coöperative observer at Newton, has, after nearly eight years efficient work, tendered his resignation, which is accepted with regret. The instruments have been transferred to Mr. Brice Booman, who takes up the work on December 1st. We are sorry to part with the Professor, but extend a cordial welcome to Mr. Booman.

✻ ✻ ✻

### EXTRACTS FROM REPORTS OF CROP CORRESPONDENTS.

Atlantic City, Sussex.—Very dry; rainfall very deficient, still no grain looks thrifty; month favorable for farm work.

W. C. HURSH.

Phillipsburg, Warren.—Winter grain in fine condition, stand good; no destructive storms during the month.

D. WILSON SMITH.

Clinton, Passaic.—Springs and wells very low, dry in some places; rye certainly has not made sufficient growth to stand the winter's freezing and thawing.

G. S. BRIGGS.

Broadway, Warren.—The great deficiency of rainfall has impaired the stand of wheat in places; a good soaking rain is needed for wheat, rye and grass; springs unusually low; corn husking about finished.

JOHN T. OBERLY.

Kingston, Somerset.—Remarkably fine weather during the month for all farm work, but a good soaking rain greatly needed. Wheat, rye and grass have obtained a good growth, notwithstanding the drought; late sown grain not yet above ground; pasturage fair.

DR. E. H. BOWNE.

Elizabeth, Union.—Fall crops all gathered in good condition; wheat, rye and newly seeded meadows have a good growth; rainfall very deficient.

O. WOODRUFF.

Warrenville, Somerset.—Wheat looks well although the soil is very dry; all fall crops housed; rain needed.

HUGO DUNDERSTADT.

Trenton, Mercer.—The total rainfall up to the 28th, is only 0.36 inch. Wells and springs are very low; some entirely dry; wheat, rye and grass suffering from drought.

E. R. COOK.

Rowlands Mills, Hunterdon.—Cool dry weather up to the 23d, only 0.19 inch of rain has fallen so far; grain fields are green and the stand fairly good, but pasture is very short; corn all in the crib and the yield fair; fodder very good.

J. Q. HOAGLAND.

Hightstown, Mercer.—Rye is very heavy and farmers have turned their cattle in to pasture; many wells dry and streams very low; hauling water for stock a necessity; corn crop below expectations; apples and pears very good.

C. M. NORTON.

Moorestown, Burlington.—Wheat and rye satisfactory, not tall but hardy, except where rye has been sown after late crops, like sweet potatoes, for protection, there little growth has been made. Grass and clover seeded in August, extra good and unimpaired by the drought. Wells and streams are very low; some have gone dry.

JOHN C. BEANS.

Beverly, Burlington.—Only 0.28 of an inch of rainfall up to the 28th. Springs and streams are very low; grass and grain do not appear to be hurt by the drought.

C. F. RICHARDSON.

Rancocas, Burlington.—Springs very low, many small streams have dried up; grain and grass not seriously affected; plowing retarded, as the ground is very hard and dry.

SPENCER HAINES.

Cape May, Cape May.—The deficiency of rainfall from 1st to 28th, is 2.98 inches. Wheat, rye and grass impaired by drought. Springs unusually low.

GEO. L. LOVETT.

Canton, Salem.—Wheat generally backward, stand appears to be thin on the ground; grass is dead and contains little nutriment; feeding stock quite general; some farmers driving their stock to never failing streams, others hauling water. This is the driest fall for the past twenty-five years.

J. H. MASKELL.

Toms River, Ocean.—The long absence of sufficient rain has injured the grain and prevents the flooding of the cranberry bogs; springs and streams almost all dry.

S. R. HARRIS.

# METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF NOVEMBER, 1905.

## TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State,  $42.1^{\circ}$ , is  $1.3^{\circ}$  below the normal, and  $1.9^{\circ}$  above the mean for the corresponding month of 1904.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $38.8^{\circ}$ ; Red Sand Stone Plain,  $42.0^{\circ}$ ; Southern Interior,  $43.1^{\circ}$ ; Sea Coast,  $44.5^{\circ}$ .

The highest monthly mean was  $45.8^{\circ}$ , at Cape May, Cape May County, and the lowest,  $36.2^{\circ}$ , at Layton, Sussex County.

The highest temperature recorded at any station was  $70^{\circ}$ , at Toms River, Ocean County, and Cape May C. H., Cape May County, on the 24th, and the lowest,  $6^{\circ}$ , at Charlotteburg, Passaic County, on the 15th.

The greatest daily range was  $45^{\circ}$ , at Toms River, Ocean County, on the 22d. Monthly range,  $64^{\circ}$ .

The highest temperature recorded during the month of November, 1904, was  $69^{\circ}$ , and the lowest,  $6^{\circ}$ .

The normal temperature for the month is  $43.4^{\circ}$ . The following table shows the mean temperature for the State for the month of November since 1887:

1887.....	41.5	1896.....	48.2
1888.....	45.8	1897.....	43.8
1889.....	45.7	1898.....	42.4
1890.....	43.8	1899.....	44.0
1891.....	42.2	1900.....	47.5
1892.....	41.9	1901.....	38.5
1893.....	41.8	1902.....	49.3
1894.....	40.3	1903.....	39.9
1895.....	45.7	1904.....	40.2
		1905.....	42.1

## PRECIPITATION, IN INCHES (INCLUDING MELTED SNOW).

The average precipitation for the month, 1.84, is 1.87 below the normal, as determined by a comparison of current values of thirty-one stations having records for ten or more years, and 0.34 below the average for the corresponding month of 1904.

The average for the various sections were as follows: The Highlands and Kittatinny Valley, 2.36; Red Sand Stone Plain, 2.11; Southern Interior, 1.61; Sea Coast, 1.00. The greatest amount recorded at any station was 2.86 at Newton, Sussex County, and the least, 0.54, at Cape May, Cape May County.

The average depth of snowfall in the Highlands and Kittatinny Valley was 0.7 inch. In remaining sections it was only a trace.

The precipitation was very unevenly distributed, the Northern and Central sections receiving the most, and the Southern and Sea Coast sections, the least amounts.

The normal precipitation for the month is 3.71. The following table shows the average precipitation for the month of November since 1887:

1887.....	1.94	1896.....	3.3
1888.....	3.97	1897.....	4.4
1889.....	8.48	1898.....	2.2
1890.....	0.82	1899.....	2.2
1891.....	2.39	1900.....	
1892.....	7.29	1901.....	
1893.....	3.48	1902.....	
1894.....	3.34	1903.....	
1895.....	3.17	1904.....	
		1905.....	

## WIND AND WEATHER.

The prevailing direction of the wind was from the northwest.

The average number of days on which precipitation equaled 0.01 inch was 6; the average number of clear days, 12; partly cloudy, 10, and cloudy, 8.



## MISCELLANEOUS PHENOMENA.

### DATES OBSERVED.

*Thunderstorms.*—26th, 29th, Brown's Mills, Indian Mills, Toms River.

*First Killing Frost.*—2d, Oceanic, Asbury Park, Atlantic City; 10th, Cape May.

*Sleet.*—18th, Cape May C. H.; 28th, Dover, Phillipsburg.

*Fog.*—1st, Cape May, Oceanic, Tuckerton, Toms River, Trenton, Moorestown, Bergen Point, Bayonne, Lambertville; 3d, Trenton; 26th, Atlantic City, Cape May, Cape May C. H.

*Lunar Halo.*—6th, Beverly, Indian Mills, Moorestown, Vineland; 8th, 10th, Bergen Point; 9th, Vineland; 17th, Moorestown.

*Solar Halo.*—5th, Atlantic City, Indian Mills, Moorestown, Phillipsburg; 15th, Indian Mills.



Reports received from stations of the River and Flood Commission, in accordance with the request of the U. S. Weather Bureau, located on the Delaware, Passaic, Pequannock and Ramapo Rivers, for the month of November, 1905.

Stations.	County.	River.	Total Precipitation.
Phillipsburg.....	Warren.....	Delaware.....	2.60
Trenton.....	Mercer.....	Delaware.....	1.57
Chatham.....	Morris.....	Passaic.....	2.53
Pompton Plains...	Morris.....	Pequannock..	1.83
Mahwah.....	Bergen.....	Ramapo.....	2.01
Little Falls.....	Passaic.....	Passaic.....	2.14



## Climatological Data for New Jersey, November, 1905.

Stations	Counties.	Elevation, feet. Above Sea Level.	Length of record years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.					Sky.			Prevailing direction of wind.	OBSERVERS.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from normal.	Greatest in 24 hours.	Total snowfall (unmelted.)	Days with .01 or more.	Number of clear days.	Number partly cloudy days.			Number cloudy days.
Highlands and Kittatinny Valley.																				
on.....	Sussex.....	550	3	36.2	-3.4	60	12	8	*14	43	1.68	-0.08	1.00	2.0	6	18	9	3	w.	Warren C. Hursh.
on.....	Sussex.....	112	10	39.4	-2.8	59	29	14	14-15	38	1.90	-1.28	1.25	†	4	18	8	4	w.	Prof. W. H. Seeley.
on.....	Sussex.....	678	25	38.2	-2.6	60	29	14	14	34	2.86	-0.51	2.05	1.0	6	14	12	4	n	Prof. Chas. J. Majory.
ere.....	Warren.....	280	14	40.7	-0.3	61	6-29	11	14	38	2.78	-0.75	1.58	†	7	16	4	10	.....	Samuel J. Hixson.
ottelburg.....	Passaic.....	719	12	38.2	-2.7	60	30	6	15	42	2.38	-1.18	2.05	1.0	5	16	11	3	n	G. S. Briggs.
r.....	Morris.....	575	19	38.4	-2.6	59	29	12	15	41	2.30	-1.91	2.00	1.0	7	6	19	5	.....	William C. Harris.
psburg.....	Morris.....	860	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss Louise DeCamp
.....	Warren.....	196	1	40.5	-1.3	63	29	15	14	31	2.60	-0.90	1.87	†	5	16	9	5	w.	D. W. Smith.
Average for District.....		.....	.....	38.8	-1.7	.....	.....	.....	.....	.....	2.36	-1.39	.....	0.7	6	15	10	5	w.	.....
The Red Sand Stone Plain.																				
son.....	Passaic.....	110	29	43.8	+1.0	66	25-29	19	14-15	42	1.98	-1.48	1.34	0.3	7	12	17	1	nw.	H. A. Probert.
r Vale.....	Bergen.....	70	13	39.4	-2.6	64	24-29	10	15	43	2.04	-2.22	1.75	1.0	3	18	5	7	nw.	A. C. Holdrum.
wood.....	Bergen.....	135	15	41.6	-3.0	62	29-30	18	14-15	41	1.75	-2.07	0.92	†	7	14	7	9	nw.	William C. Tucker, C. E.
rk.....	Essex.....	140	13	43.2	+0.2	64	29	18	14	36	2.03	-1.71	1.27	†	6	12	15	3	nw.	Prof. G. C. Sonn.
Orange.....	Essex.....	200	34	41.4	0.0	63	29	18	14	31	2.48	-1.44	1.57	0	6	12	10	8	w.	W. J. Chandler, M.D.
York City.....	New York.....	314	35	43.8	+0.4	63	29	19	30	31	1.67	-2.03	1.42	†	6	11	13	6	nw.	U. S. Weather Bureau
ne.....	Hudson.....	50	13	43.0	-1.2	65	29	18	14	32	1.98	-1.79	1.26	0	7	16	6	8	nw.	John H. Eadie.
in Point.....	Hudson.....	307	7	42.6	-2.4	64	24-29	18	14	33	2.06	-1.90	1.31	†	5	13	14	3	nw.	Dr. W. H. Mitchell.
field.....	Union.....	100	13	41.2	-1.4	64	29	15	15	33	2.57	-1.34	1.62	†	11	13	13	4	sw.	John Neagle.
eth.....	Union.....	73	24	42.0	-1.4	64	29	14	15	36	1.78	-2.18	1.48	0	5	23	5	2	.....	M. Oliver.
rville.....	Somerset.....	76	20	40.8	-2.6	64	29	14	15	36	2.68	-0.83	1.40	0	6	9	9	12	sw.	Peter Hardcastle.
ngton.....	Hunterdon.....	187	7	41.4	-2.1	66	39	15	15	36	2.45	-0.65	1.49	†	8	17	9	4	w.	H. E. Deats.
ertville.....	Hunterdon.....	95	16	41.7	-1.5	65	29	16	15	38	2.22	-1.37	1.75	†	5	16	10	4	w.	William R. Bowne.
Brunswick.....	Middlesex.....	61	46	43.2	-0.4	66	24	18	15	37	1.98	-1.95	1.29	†	6	10	8	2	w.	Charles V. Meyers.
re Farm.....	Middlesex.....	100	8	41.5	-3.5	65	29-30	15	15	42	2.01	-1.86	1.30	0	5	21	6	3	.....	Miss J. A. Voorhees.
Average for District.....		.....	.....	42.0	-0.8	.....	.....	.....	.....	.....	2.11	-1.70	.....	†	6	15	10	5	nw.	.....
The Southern Interior.																				
on.....	Mercer.....	60	28	44.6	.....	65	24-29	19	15	31	2.06	-2.21	0.95	†	5	8	18	4	nw.	E. R. Cook.
stown.....	Mercer.....	85	12	41.4	-2.9	64	6	15	15	35	2.08	-2.44	1.73	0	6	9	9	12	sw.	C. M. Norton.
stown.....	Monmouth.....	106	17	43.9	-0.8	67	24	19	15-30	31	2.20	-1.67	2.02	†	3	10	15	4	nw.	F. C. Price, M.D.
stown.....	Burlington.....	71	30	42.7	-0.3	67	24	15	15	39	1.87	-1.76	1.31	†	7	12	7	11	w.	John C. Beans.
cas.....	Burlington.....	68	15	.....	.....	.....	.....	.....	.....	.....	2.03	-1.91	1.12	†	6	11	10	9	nw.	Spencer Haines.
's Mills.....	Burlington.....	71	.....	39.8	.....	67	24-29	8	15	41	1.63	.....	1.10	†	8	16	12	2	w.	Edw. W. McGann, Jr.
wood.....	Ocean.....	54	3	42.7	.....	68	24	16	15	36	1.44	.....	0.88	0	8	19	11	0	nw.	C. A. Roe.
's Mills.....	Burlington.....	76	3	42.8	.....	68	24	11	15	40	1.96	.....	1.01	0	9	19	12	4	nw.	James Armstrong.
ly.....	Burlington.....	30	19	42.8	-1.2	66	24	15	15	38	1.93	-1.97	0.94	†	6	12	16	2	w.	C. F. Richardson.
Philadelphia, Pa.....	Philadelphia.....	.....	35	45.2	+0.4	66	29	21	30	29	1.61	-1.56	1.20	†	6	12	10	8	nw.	U. S. Weather Bureau.
on.....	Gloucester.....	126	7	42.8	-2.7	68	24	14	15	36	1.95	-1.87	1.18	†	5	18	7	5	nw.	Wm. T. Farley.
nd.....	Cumberland.....	118	32	43.0	-0.6	68	24	12	15	41	1.29	-2.36	0.85	0	5	15	12	3	nw.	Alfred Chalmers.
eton.....	Cumberland.....	30	17	44.5	-1.9	68	24	15	15	40	1.55	-1.83	1.30	0	3	15	5	10	nw.	Henry A. Jorden.
stown.....	Salem.....	16	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. D. Dickinson.
urg.....	Salem.....	16	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Nathan S. DuBois.
n.....	Salem.....	143	11	43.4	-2.2	68	29	15	15	40	1.76	-1.55	1.18	†	7	13	14	3	nw.	H. C. Perry.
n.....	Salem.....	24	2	.....	.....	.....	.....	.....	.....	.....	1.33	.....	0.94	0	6	17	4	9	.....	J. H. Maskell.
River.....	Ocean.....	33	11	42.2	-2.8	70	24	10	15	45	1.15	-3.15	0.96	†	7	19	6	5	nw.	S. R. Harris.
rtown.....	Ocean.....	23	7	42.2	-2.1	64	*1-12	11	15	39	0.93	-1.89	0.65	0	4	14	13	3	nw.	F. R. Austin.
ntville.....	Atlantic.....	26	3	.....	.....	.....	.....	.....	.....	.....	0.61	.....	0.35	†	8	17	9	4	.....	Kenneth Allen.
olne.....	Cape May.....	43	12	42.6	-2.3	68	26	12	15	34	0.65	-2.50	0.55	0	4	23	4	3	w.	Arthur R. Merrill.
ay C. H.....	Cape May.....	19	16	45.4	-1.9	70	24	15	15	34	0.89	-1.96	0.60	0	3	11	12	7	nw.	L. T. Garrettson.
Average for District.....		.....	.....	43.1	-1.4	.....	.....	.....	.....	.....	1.61	2.03	.....	†	6	14	10	6	nw.	.....
The Sea Coast.																				
Hook.....	Monmouth.....	14	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Arthur E. Jewell.
ic.....	Monmouth.....	16	17	43.8	-1.6	68	24	21	14-15	38	1.23	-2.84	0.70	0	8	13	13	4	sw.	Rev. S. W. Knipe.
y Park.....	Monmouth.....	22	15	44.0	-0.7	67	24	21	15	37	1.20	-2.08	0.73	†	7	14	10	6	w.	B. H. Obert.
ic City.....	Atlantic.....	53	30	44.3	-0.4	66	6	20	30	30	1.01	-2.49	0.84	†	5	11	6	13	nw.	U. S. Weather Bureau.
ay City.....	Cape May.....	11	10	45.8	-0.8	64	6	23	30	27	0.54	-2.82	0.37	†	4	10	13	7	nw.	U. S. Weather Bureau.
Average for District.....		.....	.....	44.5	-1.1	.....	.....	.....	.....	.....	1.00	-2.55	.....	†	6	12	10	8	sw.	.....

Letters of the alphabet denote the number of days missing from the record.

\*\* Not considered in means or summary; received too late.

\* Thermometers other than standard.

† Trace.

‡ Also on other dates.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records that have ten or more years of observation.

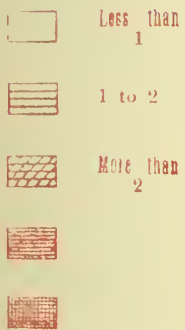


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TOTAL PRECIPITATION, NOVEMBER, 1905.

Scale of Shades - Inches



## Daily Precipitation for New Jersey, November, 1905.

Stations.	Day of month.																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
The Highlands & Kittatinny Val.																																	
Layton.....			.02			.20		†							.14														.15	1.00	.17		
Sussex.....						.30			†						.10														.25	1.25			
Newton.....			†			.26		.06		†					.10											.08			.36	2.05			
Belvidere.....				.03		.15									.09									.09					.75	1.58	.09		
Charlotteburg.....				.05		.22									.06														*	2.05			
Dover.....			.03			.17		.02	†	†					.01														.10	1.90			
Chester.....																																	
Phillipsburg.....			†	.03		.14		†							†	.05									†	†		†	.51	1.87	†		
The Red Sand Stone Plain.																																	
Paterson.....			†	.08		.16		†							.05									.02						.43	1.04	.20	
River Vale.....				.14																									.15	1.75			
Englewood.....			.02			.06									.04	.01									.01		†		.69	.92			
Newark.....			.02			.09		†	†				†		.02	.03									†	†			.60	1.27			
South Orange.....			.10			.10		†							.05	.01								.03					.60	1.57			
New York City.....			.03			.08		†					†		.05	.01									†		†		.64	.86			
Bayonne.....				.06		.09									.10											.01		†	.45	1.26	.01		
Bergen Point.....		†		.06		.16		.01						†															.52	1.31	†		
Plainfield.....			.07	.04		.07		.05	†						.05	.04									†	.05		.01	.56	1.62	.01		
Elizabeth.....						.20		†								.10											†		*	1.48			
Somerville.....				.05		.23									.30														.50	1.40	.20		
Flemington.....		.02		.02		.19		†							.11														.43	1.49	.15		
Lambertville.....			†			.08		†						†	.12														.25	1.75			
New Brunswick.....			†	.04		.16		†	†					†	.10														.31	1.29	.08		
College Farm.....				†		.16									.08												†		.27	1.30	.20		
The Southern Interior.																																	
Trenton.....			†			.11		†						†	.06												.19	†		.95	.75	†	
Hightstown.....		†		.02				.01							†												.15	†		*	1.73	†	
Imlaystown.....						.18																								2.02	†		
Moorestown.....				†		.16		†							.02	.04													.16	1.15	.26		
Rancocas.....				†		.12		.01		†					†	.06													.60	1.12	†		
Browns Mills.....						.10		.01							.01														.12	1.10	.20		
Lakewood.....				.04		.11		.01							.05														.09	.88	.24		
Indian Mills.....						.12		.15							.05														.12	1.01	.32		
Beverly.....		†		†		.10		†		†					.03														.71	.92	.02		
Philadelphia, Pa.....			†			.12	†		†					†	.01	.04		†											.12	.63	†		
Clayton.....						.10		†							.03														.18	.54			
Vineland.....						.12		†							†														.04	.85	.26		
Bridgeton.....																†													.10	1.30			
Woodstown.....																																	
Salem.....																																	
Friesburg.....						.13									.01	.06													.04	1.18	.29		
Canton.....						.11		.01							.04															.94	.20		
Toms River.....				.04		.10		.01							.02	.02														*	.96	†	
Tuckerton.....						.12									.04															.12	.65		
Pleasantville.....			.01	.04		.10									.03															.05	.36		
Woodbine.....						.10																								*		.55	
Cape May C. H.....				†		.13		†																						†	.60	.16	
The Sea Coast.																																	
Sandy Hook.....						.04		.09		.08					†														.10	.70	.20		
Oceanic.....						.05		.07		†						.01													.09	.73	.24		
Asbury Park.....		.01				.02		†						†																.49	.44		
Atlantic City.....			.04			.03		†						†																			
Cape May City.....		†		†		.05		†						†																.10	.37		

\* Precipitation included in that of following day.

† Trace, when precipitation is less than 0.01 inch.



1.03-  
NJ  
U. S. DEPARTMENT OF AGRICULTURE.

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REPORT FOR DECEMBER, 1905.

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NEW JERSEY SECTION  
OF THE  
CLIMATE AND CROP SERVICE  
OF THE  
WEATHER BUREAU.

IN COOPERATION WITH THE  
NEW JERSEY STATE WEATHER SERVICE.

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

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UNDER DIRECTION OF  
WILLIS L. MOORE,  
CHIEF U. S. WEATHER BUREAU,

BY

EDWARD W. McGANN,  
SECTION DIRECTOR.



ATLANTIC CITY, N. J.:  
WEATHER BUREAU OFFICE.  
JANUARY 17th, 1906.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATE AND CROP SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION.

EDWARD W. MCGANN, Section Director.

VOL. XVIII

ATLANTIC CITY, N. J.

No. 12.

## WEATHER AND CROPS.

The month was noted for its very mild temperature and well distributed rains. The early sown wheat and rye were much improved by the rains, especially in the southern section, where the great lack of moisture had impaired the stand. Newly seeded meadows in all sections are now in good condition. The weather was steady cold and a good snow covering from now on would most insure the crops from injury. Plowing in the southern and a portion of the central sections was possible on almost every day during the month. The rains have replenished the wells and streams, but more rain is needed in the northern portion, where the greatest deficiency obtained during the month.

EXTRACTS FROM  
REPORTS OF CROP CORRESPONDENTS.

Layton, Sussex.—The month was remarkably warm, with only a tracking snow so far. Rye, especially the early sown, is looking well. More rain is needed to fill the swamps.

W. C. HURSH.

Broadway, Warren.—Wheat that was sown between the 15th and 20th of September is very good; that sown later, not so good. The rains during the month have been beneficial, especially to meadows.

JOHN T. OBERLY.

Phillipsburg, Warren.—Winter grain in good condition.

D. WILSON SMITH.

Gillette, Morris.—Late sown wheat and rye look poor, owing to lack of moisture and the frequent freezing and thawing. Meadows need a good soaking rain.

R. N. CORNISH.

Rowlands Mills, Hunterdon.—The weather has been very favorable for outdoor work. Considerable threshing and hauling done. Winter grain, good stand and good color; no injury from the frequent freezing and thawing.

J. Q. HOAGLAND.

Trenton, Mercer.—Wheat, rye and meadows very much improved by the rains. Weather fine for outdoor work.

E. R. COOK.

Kingston, Somerset.—No snow up to the 29th. Ground frozen hard and the late sown grain scarcely up. Small streams very low.

DR. E. H. BOWNE.

Piscatawaytown, Middlesex.—Winter grain looks good. A good soaking rain needed, as the wells and springs are very low.

WM. H. WOERNER.

Fittusville, Mercer.—Winter grain and meadows are in fine

condition. No snow as yet. Fruit trees are dormant and apparently in good condition.

I. J. BLACKWELL.

Canton, Salem.—Wheat is not looking as well as at this time last year. A good soaking rain on 20th relieved the droughty conditions that had obtained.

J. H. MASKELL.

Moorestown, Burlington.—The weather has been highly favorable for outdoor work. A good soaking rain on 20th and 21st has replenished the springs and streams. Freezing and thawing have occurred daily and would hardly seem favorable for the wintering of surface herbage, but no injury has been noted as yet.

JOHN C. BEANS.

Friesburg, Salem.—The weather has been very favorable for all outdoor work. About three inches of snow fell on the 15th. Wheat is looking well.

H. C. PERRY.

Rancocas, Burlington.—Very mild weather. Dandelions in bloom on the 28th. Sod plowing progressing nicely. Winter grain and grass in fine condition.

SPENCER HAINES.

Cape May, Cape May.—The weather has been favorable for the advancement of farm work. Late sown wheat, rye and grass greatly improved by the heavy rains; late sown clover in fine condition. Springs and streams have been replenished. No injury done by high winds or low temperature.

GEORGE L. LOVETT.



## THE WEATHER BUREAU SAVING.

Some time ago a skeptical insurance company determined to investigate the amount of property saved in one year by the warnings of the Weather Bureau, says Gilbert H. Grosvenor, in the *Century*. It was a company of conservative men, whose estimate would be under rather than above the truth, but it found that on an average the people of the United States saved every year \$30,000,000 because of their weather service. As the people contribute \$1,500,000 every year to its support, this means that they get annually a dividend of 2,000 per cent. on the investment. An investment in which the original capital is paid back twenty times over in twelve months is extraordinarily profitable and well worth investigation.—*New Brunswick Home News*.



## ERRATA.

November, 1905—Beverly.—Mean temperature for the month recorded 54.3; should be 54.4.

METEOROLOGICAL SUMMARY FOR THE STATE  
FOR THE MONTH OF DECEMBER, 1905.

## TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State, 36.3°, is 2.6° above the normal, and 9.3° above the mean for the corresponding month of 1904. By referring to the table of mean temperature published below, it will be seen that it is the highest since 1887, with only three exceptions, 1889, 1891 and 1895, when it was 41.5°, 40.9°, and 37.2°, respectively.

The means for the various districts were as follows: The

Highlands and Kittatinny Valley, 33.2°; Red Sand Stone Plain, 36.2°; Southern Interior, 37.4°; Sea Coast, 36.3°.

The highest monthly mean was 39.6°, at Cape May, Cape May County, and the lowest, 31.2°, at Layton, Sussex County. The highest temperature recorded was 61°, at Inlaystown, Monmouth County, Browns Mills and Moorestown, Burlington County, on the 3d, and at Lakewood, Ocean County, and Cape May C. H., Cape May County, on the 29th, and Toms River, Ocean County, on the 3d and 29th. The lowest recorded was 5°, at Layton, Sussex County, on the 18th. Range for the State, 56°.

The normal temperature for the month is 33.8°. The following table shows the mean temperature for the State for the month of December since 1887:

1887.....	33.7	1896.....	31.3
1888.....	34.9	1897.....	35.1
1889.....	41.5	1898.....	33.3
1890.....	30.3	1899.....	35.5
1891.....	40.9	1900.....	34.4
1892.....	30.4	1901.....	32.6
1893.....	34.9	1902.....	31.7
1894.....	34.8	1903.....	28.6
1895.....	37.2	1904.....	27.0
		1905.....	36.3

#### PRECIPITATION, IN INCHES.

The average precipitation for the month, including melted snow, for all (46) stations was 3.65, which was 0.46 above the average for the corresponding month of 1904.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 3.22; Red Sand Stone Plain, 3.41; Southern Interior, 3.85; Sea Coast, 4.36.

The greatest amount recorded at any station was 5.60, at Woodbine, Cape May County, and the least, 2.58, at River Vale, Bergen County. Precipitation was very general on the 2d, 3d, 9th, 10th, 16th (in the form of snow and sleet), 21st, 23d, and 29th.

The snowfall was universally light. The average depths in the various districts were as follows: The Highlands and Kittatinny Valley, 0.4; Red Sand Stone Plain, 0.6; Southern Interior, 2.6; Sea Coast, 1.3. The average depths for the same period last year were, 19.1, 22.6, 20.4, and 21.6, respectively.

The departure from normal for the month, as determined by a comparison of current values of 31 stations having records of ten or more years with their normals, is -0.07. The following table shows the average precipitation for the State for the month of December since 1887:

1887.....	5.29	1896.....	1.43
1888.....	3.69	1897.....	4.90
1889.....	1.62	1898.....	3.53
1890.....	3.89	1899.....	2.11
1891.....	4.25	1900.....	2.59
1892.....	1.87	1901.....	7.30
1893.....	3.39	1902.....	7.23
1894.....	4.36	1903.....	4.08
1895.....	2.61	1904.....	3.19
		1905.....	3.65

#### WIND AND WEATHER.

The prevailing direction of the wind was from the west.

The average number of days in which precipitation equalled 0.01 inch was 7. The average number of clear days was 1, partly cloudy, 8; cloudy, 9.



#### MISCELLANEOUS PHENOMENA.

##### DATES OBSERVED.

*Thunderstorm*.—29th, Beverly, Moorestown, Phillipsburg, Trenton, Asbury Park.

*Lunar Halo*.—8th, 13th, 31st, Phillipsburg; 3d, 8th, 11th, Cape May C. H.; 3d, 14th, Indian Mills; 9th, 14th, Toms River; 3d, Vineland; 8th, 12th, Moorestown, Newark, Trenton.

*Solar Halo*.—6th, 31st, Moorestown; 8th, 20th, Jersey City; 8th, Indian Mills; 12th, Oceanic; 13th, Inlaystown.

*Lunar Corona*.—1st, Vineland; 3d, 29th, Cape May; 7th, 8th, 12th, Bergen Point; 9th, 28th, 29th, Somerville; 12th, 14th, Jersey City; 28th, Beverly.

*Sleet*.—16th, Indian Mills, Oceanic, Canton, Vineland, Clifton, Cape May C. H., Beverly; 9th, 10th, 16th, Plainfield; 10th, Bergen Point; 9th, 16th, Jersey City; 9th, Dover.

*Rainbow*.—29th, Moorestown.

*Meteor*.—24th, Vineland (2).



#### ACREAGE, PRODUCTION, AND VALUE OF THE PRINCIPAL CROPS OF NEW JERSEY IN 1905.

##### CROPS OF NEW JERSEY IN 1905.

(From Supplement to *Crop Reporter*, December, 1905.)

ACRES.	Yield per Acre	Production.	Price per bushel.	Total Fa value.
Corn..... 277,749	35.8	9,943,414	\$0.55	\$5,468,887
Wheat..... 110,075	16.4	1,805,230	0.88	1,588,602
Oats..... 62,512	32.0	2,000,384	0.37	740,142
Rye..... 78,363	18.0	1,410,534	0.56	930,299
Buckwheat..... 11,835	21.0	248,535	0.63	156,167
Potatoes (Irish).... 65,391	93.0	6,081,363	0.75	4,561,022
Hay..... 420,322	1.13 tons	471,964 tons	14.81 per ton	7,004,480
Total value.....				\$20,480,000



Reports received from stations of the River and Flood Service of the U. S. Weather Bureau, located on the Delaware, Passaic, Pequannock and Ramapo Rivers, for the month of December, 1905.

Stations.	County.	River.	Total Precipitation.
Phillipsburg.....	Warren.....	Delaware.....	2.73
Trenton.....	Mercer.....	Delaware.....	3.23
Chatham.....	Morris.....	Passaic.....	3.75
Pompton Plains..	Morris.....	Pequannock..	....
Mahwah.....	Bergen.....	Ramapo.....	....
* Little Falls.....	Passaic.....	Passaic.....	....



Climatological Data for New Jersey, December, 1905.

Stations	Counties	Elevation, feet, Above Sea Level.	Length of record years.	Temperature, in degrees Fahrenheit							Precipitation, in inches.					Sky.				Observers
				Mean.	Departure from the normal.	Highest.	Date	Lowest.	Date.	Greatest daily range.	Total.	Departure from normal.	Greatest in 24 hours.	Total snowfall (unmelted.)	Days with .01 or more.	Number of clear days.	Number partly cloudy days.	Number cloudy days.	Prevailing direction of wind.	
Highlands and Kittatinny Valley.																				
.....	Sussex	550	3	31.2	+5.8	52	3-29	5	18	38	2.97	-1.91	1.20	†	6	18	8	5	sw.	Warren C. Hursh.
.....	Sussex	142	10	34.0	+2.5	54	28-29	11	15	35	2.78	-1.12	1.18	1.0	5	19	9	3	sw.	Prof. W. H. Seeley
.....	Sussex	678	25	33.9	+2.8	59	28	11	15	41	3.17	-0.38	1.27	1.3	5	14	9	8	w.	Brice Bowman
.....	Warren	280	14	33.4	+2.3	55	3	12	18	33	2.82	-1.28	1.10	†	5	14	6	11	.....	Samuel J. Hixson.
.....	Passaic	719	12	33.0	+2.2	55	3	9	18	40	4.14	-0.56	2.00	0.2	6	15	8	8	w.	G. S. Briggs.
.....	Morris	575	19	32.4	+1.0	55	3	13	1	32	3.90	+0.22	1.10	†	6	7	14	10	.....	William C. Harris.
.....	Morris	860	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Miss Louise DeCamp
.....	Warren	196	1	34.6	+4.6	56	3	15	1-18	29	2.73	-1.10	1.09	0.1	6	13	8	10	w.	D. W. Smith.
Age for District..	.....	.....	.....	33.2	+2.2	.....	.....	.....	.....	.....	3.22	-0.69	.....	0.4	7	14	9	8	w.	.....
The Red Sand Stone Plain.																				
.....	Passaic	110	29	37.4	+4.4	57	29	17	1-15	29	4.23	+0.57	1.86	0.4	5	7	17	7	w.	H. A. Probert.
.....	Bergen	70	13	33.4	+2.0	58	3	8	18	42	2.58	-1.55	1.10	2.0	5	19	5	7	nw.	A. C. Holdrum.
.....	Bergen	135	15	35.0	+2.8	57	3	14	1-15	31	4.10	-0.57	1.42	4.0	9	8	11	12	w.	William C. Tucker, C.E.
.....	Essex	140	13	36.7	+3.9	59	3	15	1-15	32	3.23	-0.52	1.52	0.4	8	12	11	8	sw.	Prof. G. C. Sonn.
.....	Essex	200	34	35.5	+3.2	59	3	16	1-15	30	3.66	-0.01	1.60	†	7	14	8	9	w.	W. J. Chandler, M.D.
.....	New York	314	35	37.7	+3.3	57	3	19	1	24	3.67	-0.48	1.38	0.7	9	8	12	11	w.	U. S. Weather Bureau
.....	Hudson	15	.....	37.6	.....	56	29	18	1	24	3.38	.....	1.39	0.7	8	12	10	9	w.	Samuel K. Pearson, Jr.
.....	Hudson	50	13	36.9	+2.5	60	3	15	1	30	2.99	-0.61	1.20	0.5	8	12	7	12	w.	John H. Eadie.
.....	Hudson	57	7	36.4	+2.9	59	3	15	1	32	3.92	-0.84	1.41	0.5	6	10	14	7	sw.	Dr. W. H. Mitchell
.....	Union	100	13	35.4	+2.2	60	3	15	1	33	3.57	-0.30	1.49	0.7	8	10	11	10	sw.	John Neagle.
.....	Union	33	24	37.0	+3.5	56	3	15	1	28	3.27	-0.27	1.45	†	7	21	6	4	.....	M. Oliver.
.....	Somerset	76	20	35.3	+1.7	59	3	13	1	32	2.68	-1.01	0.89	†	5	11	5	15	sw.	Peter Hardcastle.
.....	Hunterdon	187	7	35.7	+4.6	58	3	17	1	35	3.08	-1.22	1.34	†	6	17	3	11	w.	H. E. Deats.
.....	Hunterdon	95	16	36.1	+2.4	59	3	16	1	33	3.46	-0.54	1.50	0	5	18	5	8	nw.	William R. Bowne.
.....	Middlesex	61	46	36.8	+3.0	60	3	16	1	30	3.53	-0.22	1.47	†	6	11	11	9	s	Charles V. Meyers.
.....	Middlesex	100	8	36.0	+3.1	60	3	13	1	32	3.39	-0.66	1.55	†	6	18	7	6	sw.	Miss J. A. Voorhees.
Age for District..	.....	.....	.....	36.2	+3.1	.....	.....	.....	.....	.....	3.41	.....	.....	0.6	7	13	9	9	w.	.....
The Southern Interior.																				
.....	Mercer	60	28	39.6	.....	57	21	16	1	28	3.23	-0.20	1.40	†	6	3	22	6	sw.	E. R. Cook.
.....	Mercer	85	12	35.6	+1.9	60	3	12	1	40	3.64	+0.03	1.38	0.8	7	9	8	13	sw.	C. M. Norton.
.....	Monmouth	106	17	38.3	+3.0	61	3	16	1	35	3.36	-0.07	1.18	3.0	9	13	12	7	sw.	F. C. Price, M.D.
.....	Burlington	71	30	36.6	+3.1	61	3	15	1-2	38	3.59	+0.10	1.47	2.9	8	11	10	10	w.	John C. Beans
.....	Burlington	68	15	.....	.....	.....	.....	.....	.....	.....	3.23	-0.49	1.20	2.5	7	16	3	12	sw.	Spencer Haines.
.....	Burlington	71	.....	35.2	.....	61	3	7	18	41	3.96	.....	1.30	3.0	7	20	6	5	nw.	Edw. W. McGann, Jr.
.....	Ocean	54	3	37.3	.....	61	29	13	1	36	4.22	.....	1.25	2.5	7	19	7	5	sw.	C. A. Roe.
.....	Burlington	76	3	37.4	.....	60	3-29	10	18	40	4.26	.....	1.10	3.0	8	17	8	6	nw.	James Armstrong
.....	Burlington	30	19	36.8	+2.2	60	3	15	18	37	3.62	+0.18	1.60	2.2	8	12	13	6	nw.	C. F. Richardson
.....	Philadelphia	.....	35	39.2	+3.6	60	3	20	1	24	2.98	+0.04	1.00	2.8	11	12	6	13	sw.	U. S. Weather Bureau
.....	Gloucester	126	7	36.8	+1.9	60	3	10	18	35	4.23	+0.30	1.53	5.0	8	17	2	12	sw.	Wm. T. Farley
.....	Cumberland	118	32	36.6	+2.1	60	3	12	1-13	34	4.28	+0.58	1.31	4.0	9	16	9	6	w.	Alfred Chalmers
.....	Cumberland	30	17	38.0	+0.5	60	3-29	15	18	35	4.88	+0.20	2.00	2.5	9	20	2	9	sw.	Henry A. Jorden.
.....	Salem	16	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. D. Dickinson.
.....	Salem	16	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	Salem	143	11	37.0	+2.4	59	3-8	13	1	32	3.49	+0.08	1.47	3.0	7	16	7	8	w.	H. C. Perry.
.....	Salem	24	2	.....	.....	.....	.....	.....	.....	.....	3.32	.....	1.46	3.0	8	21	1	9	.....	J. H. Maskell.
.....	Ocean	33	11	36.6	+2.4	61	3-29	12	1	40	4.40	+0.62	1.34	3.0	9	22	3	6	nw.	S. R. Harris.
.....	Ocean	23	7	35.2	+2.0	59	3	12	1	30	4.30	-0.70	1.30	3.0	7	11	12	8	nw.	F. R. Austin.
.....	Atlantic	26	3	.....	.....	.....	.....	.....	.....	.....	2.79	.....	0.64	2.0	9	17	8	6	.....	L. Van Gilder.
.....	Cape May	43	12	38.1	+2.8	60	3	12	1	32	5.60	+2.11	1.95	3.0	7	24	5	2	w.	Arthur R. Merrill.
.....	Cape May	19	16	39.0	+0.7	61	29	14	1	30	4.43	+1.26	1.05	1.0	8	12	9	10	nw.	L. T. Garretson.
Age for District..	.....	.....	.....	37.4	.....	.....	.....	.....	.....	.....	3.85	.....	.....	2.6	8	16	7	8	sw.	.....
The Sea Coast.																				
.....	Monmouth	14	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Arthur E. Jewell.
.....	Monmouth	16	17	34.7	+1.0	60	29	18	1	33	3.41	-0.61	1.25	0.7	7	15	9	7	w.	Rev. S. W. Knipe.
.....	Monmouth	22	15	38.2	+2.6	57	18	17	1	31	4.07	+0.59	1.42	4.5	6	16	6	9	w.	B. H. Obert.
.....	Atlantic	53	30	38.7	+2.3	58	3	18	1	22	4.88	+1.00	1.19	†	11	11	3	17	w.	U. S. Weather Bureau
.....	Cape May	11	10	39.6	+1.7	58	3	17	1	22	5.08	-1.85	1.20	0.1	11	8	13	10	nw.	U. S. Weather Bureau.
Age for District..	.....	.....	.....	37.8	.....	.....	.....	.....	.....	.....	4.36	.....	.....	1.3	9	12	8	11	w.	.....

Letters of the alphabet denote the number of days missing from the record.

Not considered in means or summary; received too late.

\* Thermometers other than standard.

† Trace.

‡ Also on other dates.

Records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records of stations that have ten or more years of observation.



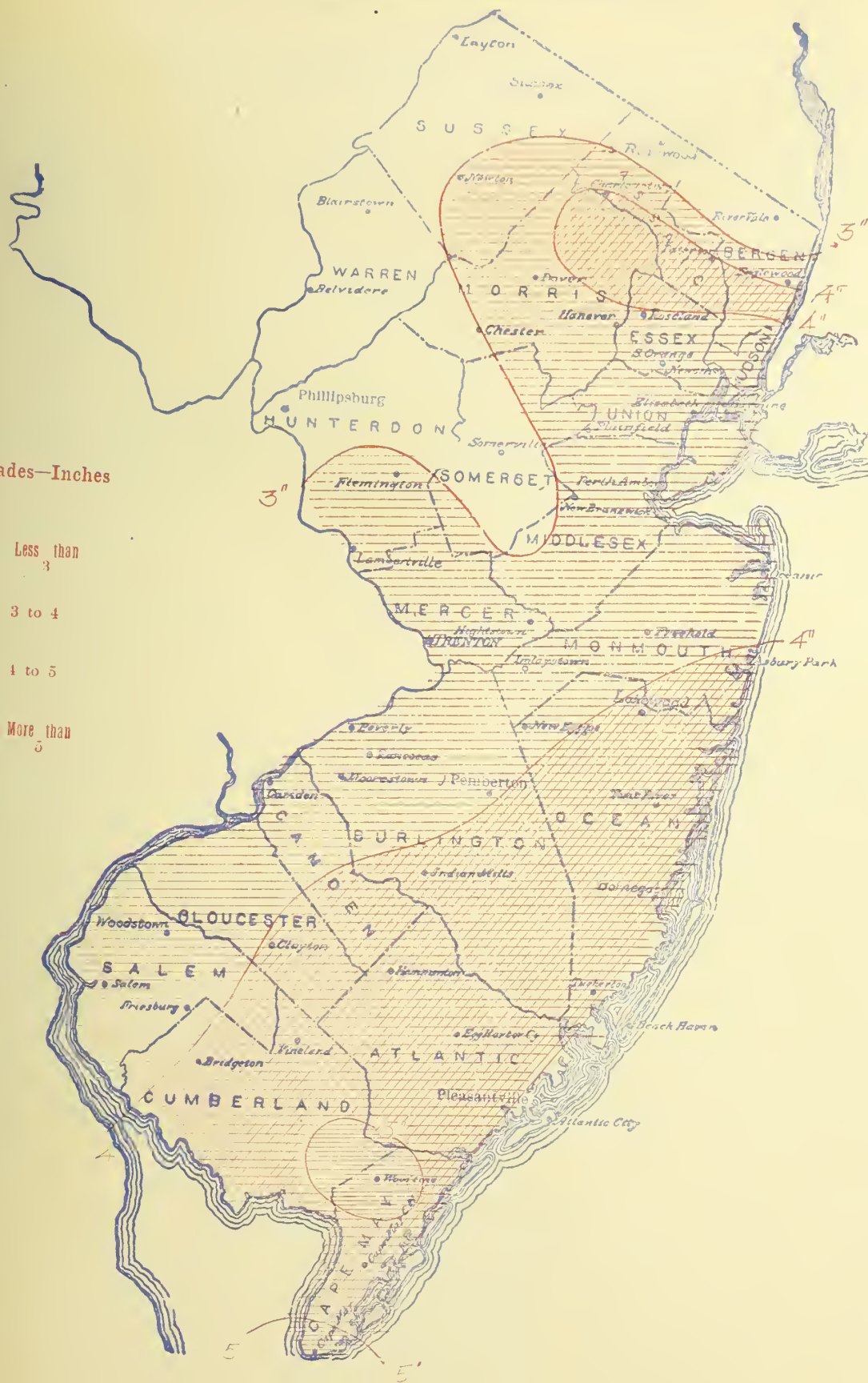
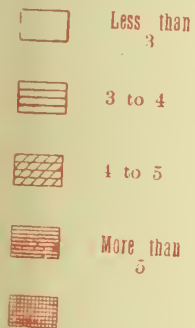
Maximum and Minimum Temperatures for New Jersey, December, 1905.

[illegible]



# TOTAL PRECIPITATION, DECEMBER, 1905.

Legend of Shades—Inches



## Daily Precipitation for New Jersey, December, 1905.

Stations.	Day of month.																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
The Highlands & Kittatinny Val.																																	
Layton.....		.05	1.03																		1.20	.04	.11								.54		
Sussex.....			1.08							.10											1.18		.17								.25		
Newton.....			1.27							.27											1.16		.11								.36		
Belvidere.....			.89							.18											1.10		.22								.48		
Charlotteburg.....		*	1.13							.16											2.00		.11								.74		
Chester.....																																	
Dover.....		*	1.05							.22											1.60		.20								.83		
Phillipsburg.....		†	.84							.15						.03					1.09		.16								.46		
The Red Sand Stone Plain.																																	
Paterson.....		*	.80						*	.22						†					1.86		.22	†							1.13		
River Vale.....			1.10							.20											.90											.38	
Englewood.....		.06	.92						.31	.28						.09					.03	1.42		.16							.83		
Newark.....		.15	.74						.08	.10						†					.20	1.32		.08							.56		
South Orange.....		.14	.70						*	.22											1.69		.18								.82		
New York City.....		.06	.83						.24	.25						.05					.01	1.37		.11	†						.75		
Jersey City.....		.01	.65						.03	.52						.03					1.39		.15	†							.60	†	
Bayonne.....		.02	.59	†					.02	.46	†					.03					1.20	†	.15	†					†		.52	†	
Bergen Point.....		†	.61						†	.49	†					.11					1.41		.15								.62	†	
Plainfield.....		.03	.70	†					.05	.25						†	.06				1.49		.16								.83		
Elizabeth.....		*	.90						*	.45						†					1.45										.47		
Somerville.....		†	.70						.37							†					.80		.18								.63		
Flemington.....		†	.70						*	.22											1.34		.12								.70		
Lambertville.....			.84						†	.33						†					1.50		.11								.68		
New Brunswick.....		†	.56	†					†	.32						†	.07				1.47		.14								.77	†	
College Farm.....			.57							.34						†					1.55		.15								.74		
The Southern Interior.																																	
Trenton.....		.35	.28						.20	.24											1.40										.66		
Hightstown.....		*	.57						*	.47						.08					1.38										1.14		
Imlaystown.....		*	.70						*	.52						.14					1.18		.04								.78		
Moorestown.....		†	.59						*	.58						.24	.12				1.47		.04								.55		
Rancocas.....		†	.65							.50						.25	.01				1.00		†								.62		
Browns Mills.....		†	.72						.03	.56						.36					1.30		.02								.97		
Lakewood.....			.85						.03	.72						.38					1.25		.01								.98		
Indian Mills.....		†	.73						.10	.58						.36	.25				1.10		.12								1.02		
Beverly.....		†	.61						.13	.36						.19	.07				1.60		.03								.63		
Philadelphia, Pa.....		.02	.60						.32	.12						.25	.08				.14	.86		.01							.07		
Clayton.....		†	.95						*	.68						.68	.16				1.53										.73		
Vineland.....		.02	.81						*	.68						.40	.21				1.31		.10								.75		
Bridgeton.....			.62						.40	.33						.25	.45				2.00		.17								.64		
Woodstown.....																																	
Salem.....																																	
Friesburg.....		†	.55						.13	.52						.24					1.47		.07								.51		
Canton.....			.45						*	.59						.30					1.46		.06								.46		
Toms River.....			1.20						*	.55						.30	.11				1.34		.05								1.15		
Tuckerton.....		*	1.20						*	.55						.30	.11				1.34		.05								1.15		
Pleasantville.....			.57						.30	.15						.22	.20				.64		.05								.63		
Woodbine.....			1.00						*	1.20						.30					1.05		.10								1.35		
Cape May C. H.....			1.05						.67	.15						.59	.18	†			.76		.12								.91	†	
The Sea Coast.																																	
Sandy Hook.....										.42						.06	.03				1.25		.05								.88		
Oceanic.....			.72						†	.51						.23	.12	†			1.42		†								.84	†	
Asbury Park.....			.95							.15						.49	.38				.02	1.00		.12							.08		
Atlantic City.....		†	1.19							.76	.15					.59					.02	1.00		.12							.08		
Cape May City.....		†	1.10							.90	.10										.02	1.20		.08							.25		

\* Precipitation included in that of following day.

† Trace, when precipitation is less than 0.01 inch.



1.05-  
NJ  
U. S. DEPARTMENT OF AGRICULTURE.

SIXTEENTH ANNUAL REPORT.

1905.

## NEW JERSEY SECTION

OF THE

# CLIMATE AND CROP SERVICE

OF THE

## WEATHER BUREAU

IN CO-OPERATION WITH

## NEW JERSEY WEATHER SERVICE.

PREPARED UNDER THE DIRECTION OF

WILLIS L. MOORE,

CHIEF U. S. WEATHER BUREAU,

BY

EDWARD W. McGANN,

DIRECTOR.



NEWS PRINTING CO.,  
STATE PRINTERS,  
PATERSON, NEW JERSEY,  
1906.

# ANNUAL MEAN ISOTHERMS AND PREVAILING DIRECTION OF WIND, 1905.





## Review of the Year.

### 1905.

#### TEMPERATURE.

The mean annual temperature,  $51.3^{\circ}$ , was  $0.6^{\circ}$  below the normal, and  $2^{\circ}$  higher than the mean for 1904. The means for the various districts were: The Highlands and Kittatinny Valley,  $48.6^{\circ}$ ; Red Sand Stone Plain,  $51.1^{\circ}$ ; Southern Interior,  $51.6^{\circ}$ ; Sea Coast,  $51.6^{\circ}$ . The mean temperature in all the districts was below the normal during January, February, April, August, September and November, and above it during March, July, October and December. The greatest departure from the normal occurred during January and February, when it was  $3^{\circ}$  in the former and  $7^{\circ}$  in the latter month. The highest annual mean was  $55.0^{\circ}$ , at Trenton, Mercer County, and the lowest,  $46.7^{\circ}$ , at Layton, Sussex County. The highest temperature recorded was  $102^{\circ}$ , on July 18, at Somerville, Somerset County, and the lowest,  $18^{\circ}$  below zero, at River Vale, Bergen County, on February 5, giving an annual range of  $120^{\circ}$ .

#### OF MEAN TEMPERATURE FOR THE SEVERAL CLIMATIC DIVISIONS OF THE STATE.

DIVISIONS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Highlands and Kittatinny Valley.....	23.1	20.0	36.4	48.3	60.2	66.8	72.8	68.2	62.8	52.3	38.8	33.3
Red Sand Stone Plain.....	26.6	23.2	39.6	50.2	61.4	68.4	74.9	71.1	65.4	54.9	42.0	36.1
Southern Interior.....	28.9	25.2	41.8	50.8	62.5	69.3	75.1	72.1	66.5	56.6	43.1	37.7
Sea Coast.....	28.6	25.3	39.4	48.7	58.8	67.0	73.4	71.6	66.9	57.6	44.4	37.7

DIVISIONS.	SEASONS.					MARCH OF THE SEASONS				
	Year.	Spring.	Summer.	Autumn.	Winter.	Winter to Spring.	Spring to Summer.	Summer to Autumn.	Autumn to Winter.	
Highlands and Kittatinny Valley.....	48.6	48.3	69.3	51.3	25.5	22.8	21.0	-18.0	-25.8	
Red Sand Stone Plain.....	51.1	50.4	71.5	54.1	28.6	21.8	21.1	-17.4	-25.5	
Southern Interior.....	52.6	51.7	72.2	55.4	30.6	21.1	20.5	-16.8	-24.8	
Sea Coast.....	51.6	49.0	70.7	56.3	30.5	18.5	21.7	-14.4	-25.8	

#### PRECIPITATION.

The average annual precipitation was 42.06 inches, or 5.63 inches below the normal. It was below the normal in every month of the year except January, August and September, the months being November, May and February, when the deficiencies averaged 1.91, 1.83 and 1.15 inches, respectively.

The greatest deficiency occurring at any station was 15.06 inches, at Trenton, Mercer County, and the least, .04 of an inch, at Cape May C. H., Cape May County. The greatest monthly amount was 9.88 inches, at Tuckerton, Ocean County, in August, and the least, .42 of an inch, at Somerville, Somerset County, in May.

The following table shows the monthly and annual amounts for the various climatic divisions of the State and the departures from the normal for the year:

DIVISIONS.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.	Departure.
The Highlands and Kittatinny Valley.....	6.05	1.58	3.78	1.92	1.40	3.10	4.24	4.46	6.90	3.79	2.36	3.34	42.35	-6.76
Red Sand Stone Plain.....	4.09	2.46	3.93	2.70	1.18	3.43	5.05	6.04	5.96	2.87	2.11	3.38	43.26	-5.16
Southern Interior.....	3.48	3.08	4.12	3.33	2.16	3.73	3.32	5.75	4.42	2.34	1.55	3.90	41.39	-5.32
Sea Coast.....	4.04	2.96	3.66	3.49	1.82	2.56	4.31	5.67	3.76	1.93	1.08	4.17	39.46	-7.16

The average depths of snowfall for the various districts were as follows: The Highlands and Kittatinny Valley, 39.7 inches; Red Sand Stone Plain, 34.0 inches; Southern Interior, 26.0 inches; Sea Coast, 28.5 inches. The average for the State was 32.0 inches, which was 16.9 inches less than the average for 1904.

The total number of days on which precipitation equalled .01 of an inch was 109. The average number of clear days was 160; partly cloudy, 114; cloudy, 91. The prevailing wind was from the northwest.

## Meteorological Summaries.

### METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF JANUARY, 1905.

#### TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State,  $27.0^{\circ}$ , was  $3.0^{\circ}$  below the normal, and  $3.8^{\circ}$  above the mean for the corresponding month of 1904.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $23.2^{\circ}$ ; Red Sand Stone Plain,  $26.7^{\circ}$ ; Southern Interior,  $28.8^{\circ}$ ; Sea Coast,  $28.8^{\circ}$ .

The highest monthly mean was  $30.6^{\circ}$ , at Cape May C. H., Cape May County, and the lowest,  $20.8^{\circ}$ , at Layton, Sussex County.

The highest temperature recorded at any station was 60°, at Bridgeton, Cumberland County, and Friesburg, Salem County, on the 1st, and the lowest, 16° below zero, at Layton, Sussex County, on the 31st.

#### PRECIPITATION, IN INCHES.

The average precipitation for the month, including melted snow, for all (46) stations, was 4.18, which was 0.46 above the normal, and 1.09 above the average for the corresponding month of 1904.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 5.25; Red Sand Stone Plain, 4.09; Southern Interior, 3.50; Sea Coast, 4.04. The greatest amount recorded at any station was 7.13, at Charlotteburg, Passaic County, and the least, 2.68, at Trenton, Mercer County. It was above the normal in the Central and Northern, and below in portions of the Southern sections, the greatest excess being in the Highlands and Kittatinny Valley.

The snowfall was decidedly above the average in all sections. The average for the State, 21.3, was 4.6 above that for the corresponding month in 1904. The following were the averages for the various sections: The Highlands and Kittatinny Valley, 32.0; Red Sand Stone Plain, 20.9; Southern Interior, 16.6; Sea Coast, 20.7.

#### WIND AND WEATHER.

The prevailing direction of wind was from the northwest. The average number of days on which precipitation equalled 0.01 was 9. The average number of clear days was 12; partly cloudy, 9, and cloudy 10.

#### WEATHER AND CROPS.

The ground was bare of snow in the Central and Northern sections from the 16th to the 24th, but no injurious thaws occurred. Wheat, rye and grasses were in good condition. In the Southern Section injurious thawing and freezing occurred on the 10th, 12th, 13th, 17th and 23d, but no serious injury was done, except in portions of Cumberland County, where the wheat was damaged somewhat. Fruit trees in all sections were dormant during the month.

### METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF FEBRUARY, 1905.

#### TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State, 23.4°, was 7.2° below the normal, and 1.4° below the mean for the corresponding

month of 1904, and 0.2° below the mean of the previous February—1895.

The means for the various districts were as follows: Highlands and Kittatinny Valley, 19.9°; Red Sand Stone Plain, 23.2°; Southern Interior, 25.2°; Sea Coast, 25.3°.

The highest monthly mean was 27.5°, at Cape May, Cape May County, and the lowest, 16.8°, at Layton, Sussex County. The highest temperature recorded was 57°, at Friesburg, Hunterdon County, on the 21st, and the lowest, 18° below zero, at River Vale, Bergen County, on the 5th. Range for the State, 75°.

#### PRECIPITATION, IN INCHES.

The average precipitation for the month (including snow), for all (45) reporting stations, was 2.53, which was 0.08 below normal, and 0.08 above the average for the corresponding month of 1904.

The averages for the various districts were as follows: Highlands and Kittatinny Valley, 1.49; Red Sand Stone Plain, 2.46; Southern Interior, 3.03; Sea Coast, 2.96.

The average depth of snowfall, 7.3, was 1.7 above the normal for February, 1904. The average depths for the various districts were: The Highlands and Kittatinny Valley, 8.8; Red Sand Stone Plain, 9.7; Southern Interior, 5.5; Sea Coast, 4.6.

#### WIND AND WEATHER.

The prevailing direction of the wind was from the northwest.

The average number of days on which precipitation equalled 0.01 inch was 7. The average number of clear days was 12; partly cloudy, 7, and cloudy, 7.

#### WEATHER AND CROPS.

The month was the coldest we have any record of, the coldest for the State being 0.2° below the previous coldest February—1895. Intensely cold weather prevailed from the 1st to the 15th, when the minima temperatures ranged from 8 in the extreme Southern to 18 below zero in the Northern portions. Temperatures and below were also recorded on the 14th and 16th. During these cold waves, and in fact, during the entire month, the ground was well covered with snow, affording ample protection to wheat, rye and grass. Fruit trees were dormant, and small bush fruits had suffered no serious injury. In some places peach and pear trees were badly injured on the San Jose scale. Owing to the great deficiency of precipitation, wells and springs were getting low, the melting snow run off over the frozen ground to the streams.



# METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF MARCH, 1905.

## TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State,  $39.8^{\circ}$ , was  $1.5^{\circ}$  above the normal, and  $2.6^{\circ}$  above the mean for the corresponding month of 1904.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $36.5^{\circ}$ ; Red Sand Stone Plain, Southern Interior,  $41.8^{\circ}$ ; Sea Coast,  $39.8^{\circ}$ .

The highest monthly mean was  $44.2^{\circ}$ , at Bridgeton, Cumberland County, and the lowest,  $33.5^{\circ}$ , at Layton, Sussex County. The highest temperature recorded at any station was  $87^{\circ}$ , at Belvidere, Warren County, on the 29th, and the lowest,  $7^{\circ}$  below zero, at Layton, Sussex County, on the 5th. Range for the State,  $80^{\circ}$ .

## PRECIPITATION, IN INCHES.

The average precipitation for the month (including melted snow) for all (47) reporting stations, was 3.97, which was 0.21 inch below the normal, and 0.52 above the average for the corresponding month of 1904.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 3.76; Red Sand Stone Plain, Southern Interior, 4.11; Sea Coast, 3.65. The largest amount recorded at any station was 5.06, at Indian Mills, Burlington County, and the least, 2.80, at Cape May, Cape May County.

The average depth of snowfall, 2.6 inches, was 1.8 inches below the average for March, 1904.

## WIND AND WEATHER.

The prevailing direction of the wind was from the southwest. The average number of days on which precipitation equalled 0.01 inch was 12. The average number of clear days was 14; partly cloudy, 9.

## WEATHER AND CROPS.

The most noticeable feature was the absence of severe storms which usually occur during this month. The temperature and precipitation were nearly normal. The last decade was especially favorable, with high temperature and abundant sunshine prevailing. The winter wheat, rye and grass, the State over, obtained a very good stand, except on low fields where ice did some damage in the Southern Section where the late seeded wheat was backward and thin on the ground. Ploughing was begun

in the Southern Section about the 17th, and by the close of the month considerable potatoes, peas and sweet corn had been planted and some oats seeded.

The fruit outlook, except in places where the San Jose Scale was prevalent, was fairly good; buds were plentiful and beginning to swell.

# METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF APRIL, 1905.

## TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State,  $49.9^{\circ}$ , was  $0.5^{\circ}$  above the normal and  $3.2^{\circ}$  above the mean for the corresponding month of 1904.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $48.5^{\circ}$ ; Red Sand Stone Plain, Southern Interior,  $50.9^{\circ}$ ; Sea Coast,  $48.7^{\circ}$ .

The highest monthly mean was  $53.2^{\circ}$ , at Bridgeton, Cumberland County, and the lowest  $46.6^{\circ}$ , at Dover, Morris County.

The highest temperature recorded at any station was  $84^{\circ}$ , at Indian Mills, Burlington County, and the lowest  $18^{\circ}$ , at Layton, Sussex County. Range for the State,  $66^{\circ}$ .

## PRECIPITATION, IN INCHES.

The average precipitation for the month (including melted snow) for all (47) reporting stations, was 2.88, which was 0.55 inch below the normal, and 0.94 below the average for the corresponding month of 1904.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 1.95; Red Sand Stone Plain, Southern Interior, 3.41; Sea Coast, 3.49.

The largest amount recorded at any station was 4.03, at Sandy Hook, Monmouth County, and the least, 1.53, at Layton, Sussex County.

The greatest depth of snowfall was 0.8 inch, at Rancocas, Burlington County.

## WIND AND WEATHER.

The prevailing direction of the wind was from the northwest. The average number of days on which precipitation equalled 0.01 inch was 10. The average number of clear days was 12, partly cloudy, 11 and cloudy, 7.

## METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF MAY, 1905.

### TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State,  $61.4^{\circ}$ , was  $1.4^{\circ}$  above the mean for the corresponding month of 1904.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $60.1^{\circ}$ ; Red Sand Stone Plain,  $61.4^{\circ}$ ; Southern Interior,  $62.5^{\circ}$ ; Sea Coast,  $58.8^{\circ}$ .

The highest monthly mean was  $65.6^{\circ}$ , at Bridgeton, Cumberland County, and the lowest  $57.2^{\circ}$ , at Asbury Park, Monmouth County.

The highest temperature recorded at any station was  $89^{\circ}$ , at Bridgeton, Cumberland County, on the 12th and 28th, and the lowest  $22^{\circ}$ , at Layton, Sussex County, on the 2d. Range for the State,  $67^{\circ}$ .

### PRECIPITATION, IN INCHES.

The average precipitation for the month for all (50) reporting stations, was 1.71, which was 2.54 below the normal, and 0.89 below the average for the corresponding month of 1904.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 1.40; Red Sand Stone Plain, 1.18; Southern Interior, 2.16; Sea Coast, 1.79. The largest amount recorded at any station was 3.49, at Canton, Salem County, and the least, 0.42, at Somerville, Somerset County.

### WIND AND WEATHER.

The prevailing direction of the wind was from the southwest.

The average number of days on which precipitation equalled 0.01 inch was 8. The average number of clear days was 12; partly cloudy, 11; cloudy, 8.

### WEATHER AND CROPS.

The chief characteristics of the month were the long drought and the uneven distribution of the rainfall. Portions of Burlington, Mercer, Salem, Atlantic and Cape May counties received more than three inches, while portions of Warren, Passaic, Union, Somerset, Middlesex, Hunterdon, Ocean and Monmouth received less than one inch. The greatest deficiency occurred in the Northern and Central sections and along the northern seacoast. In nearly all sections vegetation suffered from the absence of sufficient moisture. Wheat and rye headed out well, but the straw was very short; oats generally were promising; the yield of grass and clover was seriously shortened and pasture fields in places were drying up. The springs and streams were unusually low. Orchard fruit continued promising, although the dropping of apples was reported from some places. Cut-worms were unusually destructive to corn, and much replanting was necessary.

## METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF JUNE, 1905.

### TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State,  $68.3^{\circ}$ , was the normal, and  $0.3^{\circ}$  below the mean for the corresponding month of 1904.

The means for the various districts were as follows: Highlands and Kittatinny Valley,  $66.8^{\circ}$ ; Red Sand Stone Plain,  $68.4^{\circ}$ ; Southern Interior,  $69.3^{\circ}$ ; Sea Coast,  $66.6^{\circ}$ .

The highest monthly mean was  $72.4^{\circ}$ , at Bridgeton, Cumberland County, and the lowest,  $64.8^{\circ}$ , at Charlotteburg, County.

The highest temperature recorded at any station was the 19th, at Phillipsburg, Warren County, Indian Mills, ton County, and Salem, Salem County, and the lowest the 4th, at Charlotteburg, Passaic County. Range for the State,  $61^{\circ}$ .

### PRECIPITATION, IN INCHES.

The average precipitation for the month for all (40) reporting stations was 3.43, which was slightly below the normal, 0.30 above the average for the corresponding month of 1904.

The averages for the various districts were as follows: Highlands and Kittatinny Valley, 3.10; Red Sand Stone Plain, 3.43; Southern Interior, 3.73; Sea Coast, 2.49. The largest amount recorded at any station was 8.71 inches at Warren, Salem County, and the least, 1.67 inches, at Cape May, Cape May County.

### WIND AND WEATHER.

The prevailing direction of the wind was from the southwest.

The average number of days on which precipitation equalled 0.01 inch was 10.

The average number of clear days was 11; partly cloudy, 7.

### WEATHER AND CROPS.

The temperature, rainfall and sunshine were about the normal, but the rainfall was very unequally distributed, and the number of days on which the rain fell was above the average. The showers were generally light and insufficient, and especially in the portions of the Red Sand Stone Plain and the extreme portion of the Southern Section, where truck crops were seriously shortened by drought. Wheat and rye were ready for harvest, the heads were well filled, but the straw was short. The corn harvest was begun in places, but retarded by cloudy weather, the yield, generally, was below the average, but the quality was very good. All truck crops that were not checked by want of moisture, were in very promising condition. The June crop was excessive in some places.



## METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF JULY, 1905.

### TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State,  $74.4^{\circ}$ , was  $0.4^{\circ}$  above the normal, and  $2.1^{\circ}$  above the mean for the corresponding month of 1904.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $72.8^{\circ}$ ; Red Sand Stone Plain, Southern Interior,  $75.2^{\circ}$ ; Sea Coast,  $73.4^{\circ}$ .

The highest monthly mean was  $77.2^{\circ}$ , at Bridgeton, Cumberland County, and the lowest,  $70.9^{\circ}$ , at Charlotteburg, Passaic County.

The highest temperature recorded was  $102^{\circ}$ , at Somerville, Somerset County, on the 18th, and the lowest,  $42^{\circ}$ , at Layton, Sussex County, on the 26th and at Charlotteburg, Passaic County, on the 26th and 27th. Range for the State,  $60^{\circ}$ .

### PRECIPITATION, IN INCHES.

The precipitation was very unequally distributed and came in the form of local thunder showers. Some portions of all sections received an excess and others a marked deficiency.

The average for the month for all, (49) reporting stations was  $0.81$  inch, which was about 1 inch below the normal, and  $0.81$  below the average for the corresponding month of 1904.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley,  $3.77$ ; Red Sand Stone Plain, Southern Interior,  $3.32$ ; Sea Coast,  $4.31$ .

The largest amount recorded was  $8.19$ , at Plainfield, Union County, and the least,  $1.67$ , at Atlantic City, Atlantic County.

### WIND AND WEATHER.

The prevailing direction of the wind was from the southwest. The average number of days on which precipitation equalled or exceeded  $0.01$  inch was 12. The average number of clear days was 12; partly cloudy, 13; cloudy, 6.

## METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF AUGUST, 1905.

### TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State,  $71.1^{\circ}$ , was  $1.4^{\circ}$  below the normal, and  $0.3^{\circ}$  above the mean for the corresponding month of 1904.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $68.4^{\circ}$ ; Red Sand Stone Plain, Southern Interior,  $72.1^{\circ}$ ; Sea Coast,  $71.4^{\circ}$ .

The highest monthly mean was  $74.6^{\circ}$ , at Bridgeton, Cumberland County, and the lowest,  $66.0^{\circ}$ , at Charlotteburg, Passaic County.

The highest temperature recorded was  $95^{\circ}$ , at Bridgeton and Vineland, Cumberland County, on the 7th and 23d, respectively, and at Indian Mills on the 24th, and the lowest,  $38^{\circ}$ , at Charlotteburg, Passaic County, on the 19th. Range for the State,  $57^{\circ}$ .

### PRECIPITATION, IN INCHES.

The average precipitation for the month for all (43) reporting stations was  $5.72$ , which was  $1.24$  above the normal, and  $1.66$  above the average for the corresponding month of 1904.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley,  $4.46$ ; Red Sand Stone Plain, Southern Interior,  $5.80$ ; Sea Coast,  $5.90$ .

The greatest amount recorded was  $9.88$ , at Tuckerton, Ocean County, and the least,  $3.51$ , at Toms River, Ocean County.

### WIND AND WEATHER.

The prevailing direction of the wind was from the southwest.

The average number of days on which precipitation equalled or exceeded  $0.01$  inch was 12. The average number of clear days was 13; partly cloudy, 10; cloudy, 8.

## METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF SEPTEMBER, 1905.

### TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State,  $65.4^{\circ}$ , was  $0.6^{\circ}$  below the normal and  $0.6^{\circ}$  below the mean for the corresponding month of 1904.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $62.8^{\circ}$ ; Red Sand Stone Plain, Southern Interior,  $66.4^{\circ}$ ; Sea Coast,  $66.9^{\circ}$ .

The highest monthly mean was  $68.4^{\circ}$ , at Bridgeton, Cumberland County, and the lowest,  $61.0^{\circ}$ , at Dover, Morris County.

The highest temperature recorded at any station was  $90^{\circ}$ , at Flemington, Hunterdon County, on the 30th, and the lowest,  $28^{\circ}$ , at Layton, Sussex County and Charlotteburg, Passaic County, on the 27th. Range for the State,  $62^{\circ}$ .

### PRECIPITATION, IN INCHES.

The average precipitation for the month for all (47) reporting stations was  $5.23$ , which was  $1.33$  above the normal, and  $0.44$  above the mean for the corresponding month of 1904.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley,  $6.90$ ; Red Sand Stone Plain, Southern Interior,  $4.42$ ; Sea Coast,  $3.55$ .

The largest amount recorded at any station was  $9.18$ , at Chester, Morris County, and the least,  $2.87$ , at Atlantic City, Atlantic County.

The largest twenty-four hour falls occurred on the 2d and 3d.

as follows: Newton, Sussex County, 5.32; Dover, Morris County, 4.00; Chester, Morris County, 3.10; Englewood, Bergen County, 3.56; Plainfield, Union County, 4.90; Somerville, Somerset County, 3.83.

#### WIND AND WEATHER.

The prevailing direction of the wind was from the northwest.

The average number of days on which precipitation equalled 0.01 inch was 8. The average number of clear days was 16; partly cloudy, 7; cloudy, 7.

### METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF OCTOBER, 1905.

#### TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State, 55.5°, was 1.2° above the normal and 3.6° above the mean for the corresponding month of 1904.

The means for the various districts were as follows: Highlands and Kittatinny Valley, 52.3°; Red Sand Stone Plain, 54.9°; Southern Interior, 56.6°; Sea Coast, 57.6°.

The highest monthly mean was 59°, at Bridgeton, Cumberland County, and the lowest, 50.8°, at Charlotteburg, Passaic County.

The highest temperature recorded at any station was 90°, at Indian Mills, Burlington County, on the 1st, and the lowest, 17°, at Layton, Sussex County, on the 27th and 30th. The greatest daily range was 48°, at Woodbine, Cape May County. Range for the State, 73°.

#### PRECIPITATION, IN INCHES.

The precipitation during the month was unequally distributed. It was slightly above the normal in the Highlands and Kittatinny Valley, slightly below in the Red Sand Stone Plain and decidedly below in the remaining districts.

The average for the month, 2.71, was 0.95 below the normal, and 1.07 below the mean for the corresponding month of 1904.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 3.82; Red Sand Stone Plain, 2.87; Southern Interior, 2.40; Sea Coast, 1.93.

The greatest amount recorded at any station was 4.83, at Newton, Sussex County, and the least, 0.75, at Woodbine, Cape May County.

The normal precipitation for the month is 3.66.

#### WIND AND WEATHER.

The prevailing direction of the wind was from the west.

The average number of days on which precipitation equalled 0.01 inch was 7. The average number of clear days, 18; partly cloudy, 7, and cloudy, 6.

#### WEATHER AND CROPS.

The month was exceptionally favorable for farming operations, and for the gathering of the late crops, all of which secured in fine condition. Wheat, rye and newly mowed meadows obtained a good stand and were growing nicely, a limited area in the Northern Section some fields of wheat being injured by the fly. Corn husking, owing to the favorable weather, was well advanced, but the yield in some places was up to expectations. Pasturage continued good and cattle close of the month were still grazing. The first killing for the season was quite general in the Southern sections, morning of the 22d, but did very little injury.

### METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF NOVEMBER, 1905.

#### TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State, 42.1°, was 1.3° above the normal, and 1.9° above the mean for the corresponding month of 1904.

The means for the various districts were as follows: Highlands and Kittatinny Valley, 38.8°; Red Sand Stone Plain, 42.0°; Southern Interior, 43.1°; Sea Coast, 44.5°.

The highest mean was 45.8°, at Cape May, Cape May County, and the lowest, 36.2°, at Layton, Sussex County.

The highest temperature recorded at any station was 60° at Toms River, Ocean County, and Cape May C. H., Cape May County, on the 24th, and the lowest, 6°, at Charlotteburg, Passaic County, on the 15th.

#### PRECIPITATION, IN INCHES.

The average precipitation for the month, 1.84, was 1.8° above the normal, and 0.34 below the average for the corresponding month of 1904.

The averages for the various sections were as follows: Highlands and Kittatinny Valley, 2.36; Red Sand Stone Plain, 2.11; Southern Interior, 1.61; Sea Coast, 1.00. The greatest amount recorded at any station was 2.86 at Newton, Sussex County, and the least, 0.54, at Cape May, Cape May County.

The average depth of snow fall in the Highlands and Kittatinny Valley was 0.7 inch. In remaining sections it was a trace.

The precipitation was very unevenly distributed, the Northern and Central sections receiving the greatest, and the Southern and Sea Coast sections, the least amounts.

#### WEATHER AND CROPS.

The prevailing weather conditions during the month were exceptionally favorable for the rapid advancement of all



work; corn was husked and stored in the crib in good condition, and plowing, although difficult, owing to the dryness of the soil, was nearly completed. The great lack of precipitation reduced the stand of wheat, rye and grass. In some places it was not sufficiently well rooted to withstand the winter's freezing and thawing. Wheat sown late in October, in some places in the Southern Section, failed to germinate, owing to the long drought.

## WEATHEROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF DECEMBER, 1905.

### TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State,  $36.3^{\circ}$ , was  $2.6^{\circ}$  above normal, and  $9.3^{\circ}$  above the mean for the corresponding month of 1904.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $33.2^{\circ}$ ; Red Sand Stone Plain,  $36.3^{\circ}$ ; Southern Interior,  $37.4^{\circ}$ ; Sea Coast,  $36.3^{\circ}$ .

The highest monthly mean was  $39.6^{\circ}$ , at Cape May, Cape May County, and the lowest,  $31.2$ , at Layton, Sussex County. The highest temperature recorded was  $61^{\circ}$ , at Imlaystown, Sussex County, Brown's Mills and Moorestown, Burlington County, on the 3d, at Lakewood, Ocean County, Cape May C.

H., Cape May County, on the 29th, and Toms River, Ocean County, on the 3d and 29th. The lowest recorded was  $5^{\circ}$ , at Layton, Sussex County, on the 18th.

### PRECIPITATION, IN INCHES.

The average precipitation for the month, including melted snow, for all (46) stations was 3.65, which was slightly below normal, and 0.46 above the average for the corresponding month of 1904.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 3.22; Red Sand Stone Plain, 3.41; Southern Interior, 3.85; Sea Coast, 4.36.

The greatest amount recorded at any station was 5.60, at Woodbine, Cape May County, and the least, 2.58, at River Vale, Bergen County. Precipitation was very general on the 2d, 3d, 9th, 10th, 16th (in the form of snow and sleet), 21st, 23d and 29th.

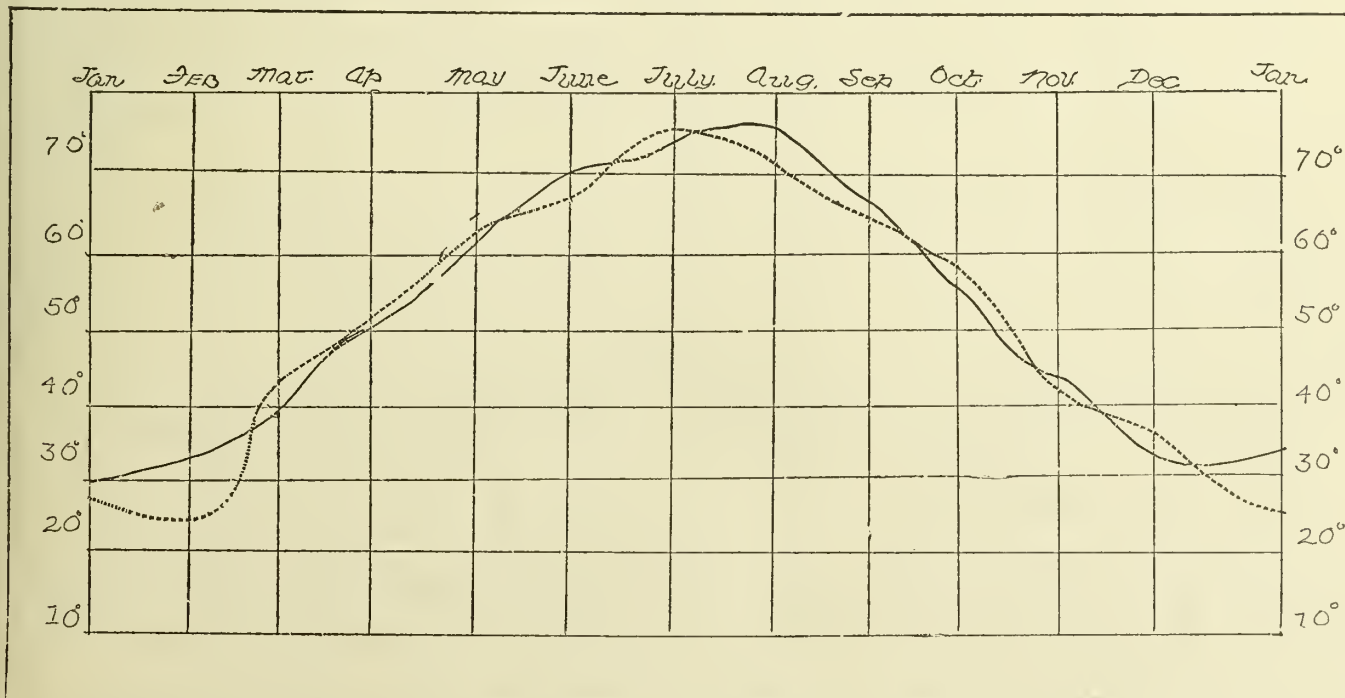
The snowfall was universally light. The average depths in the various districts were as follows: The Highlands and Kittatinny Valley, 0.4; Red Sand Stone Plain, 0.6; Southern Interior, 2.6; Sea Coast, 1.3.

### WEATHER AND CROPS.

The month was noted for its very mild temperature and well distributed rains. The early sown wheat and rye were much improved by the rains, especially in the southern section, where

### CURVES OF TEMPERATURE FOR NEW JERSEY, 1905.

(Dotted lines represent averages for 1905. Solid lines show normals based on records for ten or more years.)



the great lack of moisture had impaired the stand. Newly seeded meadows in all sections were in good condition. Plowing in the southern and a portion of the central sections was possible on almost every day during the month.

### KILLING FROSTS.

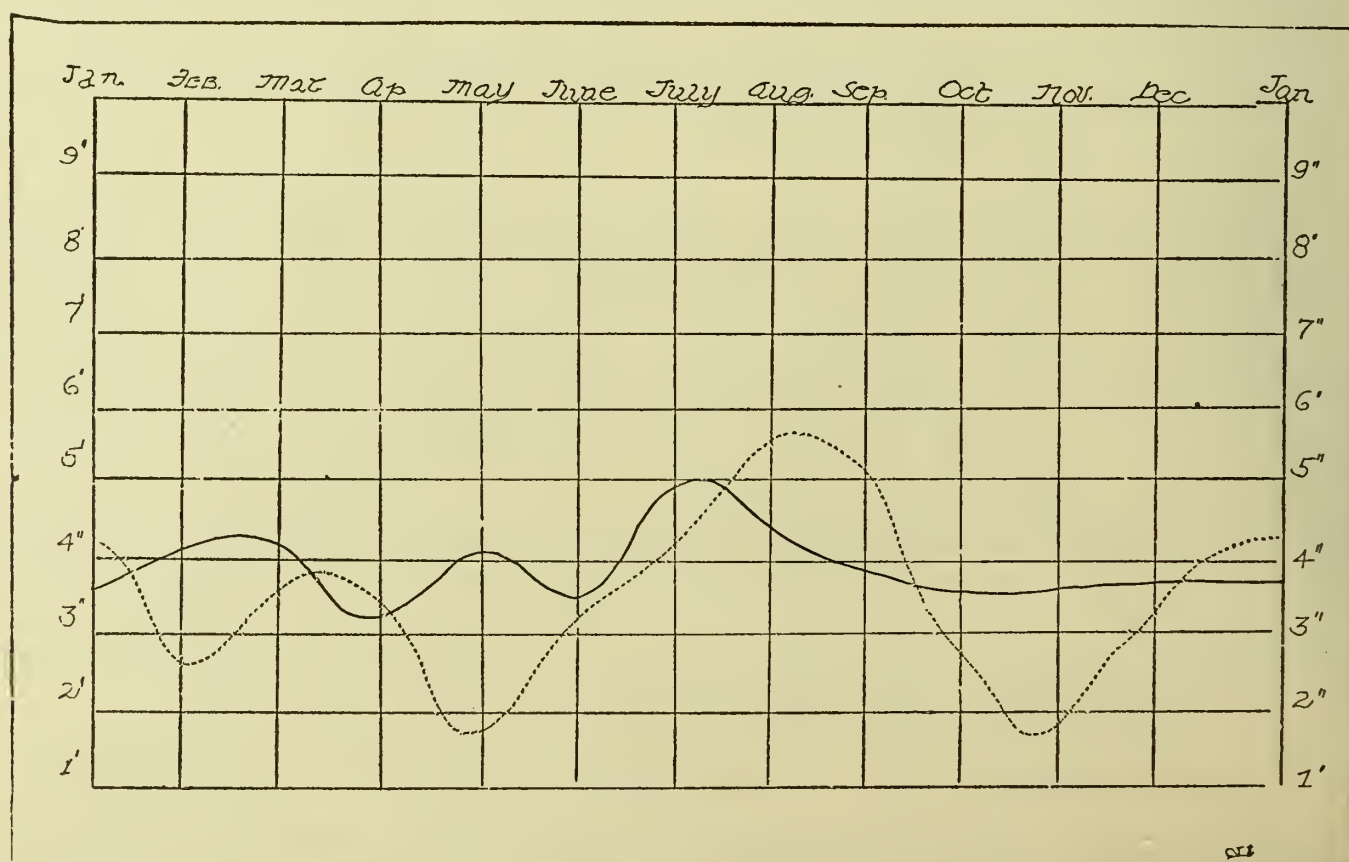
The following table shows the dates of the last killing frosts in Spring and the first killing frosts in Autumn.

STATIONS.	LAST KILLING IN SPRING.	FIRST KILLING IN AUTUMN.
Layton.....	May 24th .....	September 27th
Sussex.....	May 2d. ....	October 22d
Newton.....	May 21st.....	September 27th
Belvidere.....	May 21st. ....	October 22d
Charlotteburg.....	May 30th. ....	September 14th
Dover.....	May 2d. ....	September 26th
Chester.....	May 2d. ....	.....
Phillipsburg.....	April 19th. ....	October 22d
Paterson.....	April 19th. ....	October 13th
River Vale.....	May 22d. ....	September 27th
Englewood.....	April 19th. ....	October 22d
Newark.....	April 19th. ....	October 27th
South Orange.....	May 2d. ....	October 27th
Bayonne.....	May 2d. ....	October 22d
Bergen Point.....	May 2d. ....	October 27th

Plainfield.....	May 2d. ....	October 2
Elizabeth.....	April 19th. ....	October 2
Somerville.....	May 2d. ....	October 2
Flemington.....	May 2d. ....	October 2
Lambertville.....	May 2d. ....	October 2
New Brunswick.....	May 2d. ....	October 2
College Farm.....	May 2d. ....	October 2
Trenton.....	April 19th. ....	October 2
Hightstown.....	May 2d. ....	October 2
Imlaystown.....	May 2d. ....	October 2
Moorestown.....	April 19th. ....	October 2
Rancocas.....	April 19th. ....	October 2
Brown's Mills.....	.....	September 27
Lakewood.....	May 2d. ....	October 2
Indian Mills.....	May 2d. ....	October 2
Beverly.....	April 19th. ....	October 2
Clayton.....	May 2d. ....	October 2
Vineland.....	May 2d. ....	October 2
Bridgeton.....	April 19th. ....	October 2
Friesburg.....	April 19th. ....	October 2
Canton.....	.....	September 26
Toms River.....	.....	September 26
Tuckerton.....	May 2d. ....	October 2
Woodbine.....	April 24th. ....	October 8
Cape May, C. H.....	May 21st. ....	October 2
Sandy Hook.....	April 17th. ....	November
Oceanic.....	April 19th. ....	November
Asbury Park.....	April 19th. ....	November
Atlantic City.....	April 19th. ....	November
Cape May.....	April 3rd..	November

### CURVES OF PRECIPITATION FOR NEW JERSEY, 1905.

(Dotted lines represent averages for 1905. Solid lines show normals based on records for past ten years or more.)





## Summary of Weekly Crop Conditions in New Jersey, During the Season of 1905.

### BULLETIN NO. 1.

Atlantic City, N. J., April 11, 1905.

The prevailing weather conditions during the last decade of March and the first of April were generally favorable for the growth of wheat, rye and grass. Good, even stands were reaped from all sections, except in some low fields, where a little frost killing occurred. Plowing for oats and corn was begun in the month, but was hindered somewhat by the heavy rain on the 5th and 6th. In the Northern and Central sections oats was seeded and early potatoes planted. In the Southern Section a large acreage of sweet corn, onions, peas, and nearly truck crops was planted, and considerable plowing was done and much oats seeded. The hothouse plants were in good condition and nearly ready for transplanting to the fields. The outlook for orchard fruit was fairly good, except in places where the San Jose Scale was prevalent. In places in Hudson County many trees were killed by this pest. Much spraying was done more than ever before at this season of the year, was done. The fruits, especially strawberries, wintered well, and owing to good snow covering, during the winter months, very little frost of the ground occurred, the plants were in good condition. During the week ending Monday, April 10th, 1905, the temperature, sunshine and precipitation, were slightly above the normal average. Killing frost occurred on the morning of the 11th, but did little injury.

### BULLETIN NO. 2.

Atlantic City, N. J., April 17th, 1905.

The weather during the week was cool and cloudy, with showery weather in the Southern Section, on the 11th, 12th, 13th, and 14th. On the last date heavy snow squalls were general in all sections. The highest temperature recorded was 83 degrees on the 11th, and the lowest, 27 degrees, on the 14th and 17th. Frost occurred on the mornings of the 10th, 14th and 17th, doing little injury to fruit buds, but some of the early transplantings were injured in the fields. Farming operations progressed slowly on account of the wet condition of the ground, yet a large acreage of early potatoes, sweet corn and peas was planted and transplanting from the hot-beds to the field was begun. Wheat, rye and grass were in good growing condition. Early plum and peach trees were showing bloom in the Southern Section.

### BULLETIN NO. 3.

Atlantic City, N. J., April 25th, 1905.

The prevailing weather during the week was favorable for all farming operations, the ground being in fine condition; much plowing, seeding and planting was done. Several killing frosts occurred on the 17th, 18th and 19th, and did considerable injury in the Southern Section, where the early peach, pear and plum trees were in bloom; much of the early strawberry bloom was killed and the first asparagus, just above the ground, was destroyed. Snow squalls and frost were quite frequent in the Central and Northern sections, but the fruit trees were not far enough advanced, and escaped injury. Wheat and rye continued in good growing condition, but grass was retarded by the cool weather. Reports received from all sections of the State, indicated that the small bush fruits wintered well.

The temperature and rainfall were below the normal, the former showed a deficiency of about 3 degrees on each day of the week. Light rains fell on the 22nd and 23rd, and averaged about 0.20 of an inch at all stations. The sunshine was about the average.

### BULLETIN NO. 4.

Atlantic City, N. J., May 2nd, 1905.

The weather conditions during the week ending Monday, May 1st, were very favorable for plowing, planting and seeding, also for the growth of all crops. In the Northern Section farm work advanced rapidly and much plowing and seeding was done. The seeding of oats was finished and the planting of potatoes and gardening was progressing. Grain and grass obtained a good stand. In the Central Section the seeding of oats was completed and a large acreage of potatoes was planted, some were above ground. Sod plowing for corn was well under way. Grain and grass were in fine condition. Orchard fruit trees were in bloom and were very promising, especially the late varieties. In the Southern Section the warmer weather followed by gentle rains greatly stimulated all crops. Fruit trees, except peaches, were in full bloom. The severe frosts of the previous week killed a large portion of the bloom. Strawberries also suffered, but the late varieties escaped serious injury.

The temperature and precipitation for the month of April were slightly above the normal.

### BULLETIN NO. 5.

Atlantic City, N. J., May 9, 1905.

The temperature was from 3 to 5 degrees below the normal on every day of the week, except Sunday, when it was from 10 to 15 degrees above. The rainfall was greatly deficient, only light showers occurring on the Southern seacoast, and in the ex-

treme Northern Section, on the 4th, but insufficient for present needs. Good progress was made during the week in plowing, planting and general truck farming; oats were above ground and the stand even. The transplanting of tomatoes and sweet potatoes, from the hot-beds to the fields was begun in the Southern Section, and the planting of corn in the Central and Northern sections was quite general.

Orchard fruit trees were full of bloom, especially apple, the bloom being more profuse than that of last year. Heavy frosts on the mornings of the 2nd and 3rd did some injury to asparagus and other tender vegetation, but did no injury to fruit blossoms.

## BULLETIN NO. 6.

Atlantic City, N. J., May 16, 1905.

The temperature and sunshine were above the normal on nearly every day of the week, but the rainfall was again very deficient, until the afternoon of the 14th, Sunday, when copious showers occurred. Plowing was difficult, and was suspended in places, owing to the dry condition of the soil. Germination and growth were checked, as was also the transplanting of truck crops. Rye was heading out, but in some places the straw was short, wheat continued in good condition, and a good stand of oats obtained. Orchard fruit set well; reports from the Northern Section indicated a good set of peaches. Early strawberries were maturing in the Southern Section.

## BULLETIN NO. 7.

Atlantic City, N. J., May 23, 1905.

The frequent rains during the first half of the week were very unevenly distributed, the Southern, and portions of the Central sections receiving the greatest, and the Northern, the least amounts. The temperature was generally about normal, except on the 21st, when it was 9 degrees below; heavy frost occurred on the 23rd. In low places, sweet potatoes were slightly nipped in the hot-beds and other tender plants in the field suffered somewhat.

The rains were of great benefit in all places where sufficient; much planting and transplanting was done, and the truck crops in the Southern and Central sections were in good growing condition. In the Northern Section more rain was needed, as the sub-soil was very dry. Orchard and small fruits obtained quite a promising set, and the outlook for a good yield of these fruits was encouraging. Cut worms were becoming quite numerous and were doing injury to corn and lima beans.

## BULLETIN NO. 8.

Atlantic City, N. J., May 30, 1905.

Cool weather during the week, with a large deficiency of sunshine and rainfall retarded the growth of all crops; corn in places was coming up unevenly, and much replanting was needed. Wheat, rye and oats were in fairly good condition, but in need of rain, the first was heading out well, but generally straw was short. The prospects of small fruits were not promising. Cut-worms and other insects were unusually numerous and did much damage to corn, tomatoes and lima beans.

The rainfall was very light, varying from a trace to 0.1 inch.

## BULLETIN NO. 9.

Atlantic City, N. J., June 6, 1905.

The temperature during the week was about 2 degrees below the daily normal; cool nights generally prevailed and this retarded the growth of corn and other tender vegetation. Beneficial showers occurred in all sections, but were very unevenly distributed. The rainfall was still largely deficient; in many places less than one-half the normal amount was recorded during the month of May. Wheat and rye were heading nicely, but the straw was short; grass and clover were not so promising. The long continued absence of rain having shortened these crops, corn planted during the last half of May came up unevenly and considerable replanting was necessary. The cut-worms were destructive. Orchard and small fruit continued producing.

## BULLETIN NO. 10.

Atlantic City, N. J., June 13, 1905.

Good rains on 6th, 7th and 11th greatly benefited all crops, but cool weather and insufficient sunshine continued to retard growth. Cut-worms and potato bugs were very destructive in some corn fields having been entirely destroyed by the worms. Wheat, oats and rye were promising, but the hay and other crops were materially shortened by the drought, the rains coming too late to be of much benefit to these crops. Planting was progressing in all sections. In the Central and Northern sections the ground was being prepared for buckwheat.

## BULLETIN NO. 11.

Atlantic City, N. J., June 20, 1905.

Copious showers were general on the 12th, 13th and 14th, except in portions of the Northern and Central sections where the rains were light and insufficient for present needs. The last half of the week was characterized by a decided rise in temperature and plenty of sunshine, which greatly stimulated and improved the growth of all crops.



op conditions. The hay and clover harvest and the seeding of wheat were begun. Cultivation was general and the soil was in fine condition much of this work was done. Wheat and rye were beginning to ripen and the heads were well filled; oats were in head and promised a good yield, but the straw in many places was short. Apples, in well cared for orchards, had a good set and very little dropping was reported; peaches, raspberries, gooseberries and currants were very promising. All crops showed a marked improvement.

## BULLETIN NO. 12.

Atlantic City, N. J., June 27, 1905.

Profuse showers fell in some portions of all sections but were unevenly distributed. In the Red Sand Stone Section, they were sufficient to effectually break the drought, except in a small portion of Middlesex County. The days and nights were decidedly warmer and most beneficial, especially to corn and tender vine crops. Vegetation generally was greatly stimulated and all crops were in good growing condition. The harvesting of rye was begun, but was hindered somewhat by the showers; much grass was cut and was still in the fields, as the cloudy weather retarded the curing. In the Southern Section early potatoes, sweet corn and tomatoes were shipped to market. During the week the temperature ranged from 58 to 94 degrees.

## BULLETIN NO. 13.

Atlantic City, N. J., July 5, 1905.

The weather conditions that prevailed during the week ending Monday, July 3rd, were very favorable to the harvesting of wheat, rye and grass; much of the former was in shock in the North and considerable of the latter was housed in fine condition, but the yield was greatly shortened by drought. Some fields of rye were cut in the Southern Section and secured in fine condition. All growing crops were advancing nicely, but an all-around rain was needed as some crops were suffering from the lack of moisture. Apples continued promising in the well cared for orchards; grapes, melons, sweet potatoes and tomatoes, although backward, were doing well. The showers during the first and last days of the week were generally light and insufficient.

## BULLETIN NO. 14.

Atlantic City, N. J., July 11, 1905.

The temperature during the week was slightly above the normal, the maximum ranging from 75 to 90 degrees and the minimum from 63 to 70 degrees. Light showers were quite general

in all sections on the 3rd and in portions of the Northern Section on the 5th and 8th. The rainfall for the week was largely deficient in all sections. Fine harvest weather prevailed and much hay and grain was housed in fine condition. The former was below the average yield, but the quality was good. Thrashing of wheat was begun in the Southern Section. Oats were ripening and promised an unusually large yield, but the straw was short. Truck crops were in fair condition, but needed rain, especially in the Central Section, where growth and development were greatly checked for want of moisture. Apples, both early and late, continued promising, although excessive dropping was reported from some places.

## BULLETIN NO. 15.

Atlantic City, N. J., July 18, 1905.

The temperature during the week averaged about 3 degrees above the normal. The rainfall was near the average in all sections except the Central, which includes the counties of Monmouth, Mercer, Middlesex, Union and Hunterdon. In these counties the precipitation was generally light and very unevenly distributed. All truck crops, where the rainfall was sufficient, were in fine growing condition; corn, potatoes, peppers, tomatoes and melons made a fine growth and were very promising. In the Central Section crops were seriously affected by the long drought. Apples and peaches were clinging to the trees and developing nicely. Cranberries were in full bloom and the crop was more promising than earlier in the season.

## BULLETIN NO. 16.

Atlantic City, N. J., July 25, 1905.

The temperature during the week averaged about 8 degrees above the normal. The maximum temperature on the 17th, 18th and 19th ranged from 95 to 100 degrees. Only widely scattered showers occurred until Saturday, Sunday and Monday, when good soaking rains fell in all sections. Previous to Saturday, all vegetation suffered severely from drought; corn was wilting and rolling badly and pasture fields were turning yellow; cisterns and wells were going dry and in some cases hauling water for stock was necessary. Apples in places were dropping freely owing to lack of moisture and the potato crop was greatly shortened by the absence of sufficient moisture at the critical period of development.

The week was favorable for the completion of the harvesting of hay, wheat and rye; these crops were all housed in excellent condition. The cutting of oats was nearing completion at the close of the week.

## BULLETIN NO. 17.

Atlantic City, N. J., August 1, 1905.

During the first four days of the week the temperature was from one to five degrees below, and during the last three it was about the normal. The sunshine was largely in excess, the days being warm and bright, and the nights moderately cool. The rainfall was largely deficient until the closing days of the week when heavy showers occurred in the droughty districts of the Middle and Northern sections. In these sections the drought was more severe than for a number of years, greatly shortening all crops, especially potatoes and garden truck; pasture fields were drying up and the feeding of stock was quite general. Apples were dropping freely in many places owing to a lack of moisture; peaches continued promising and picking of the early varieties commenced. Grapes were developing nicely and the prospects for cranberries were greatly improved. The oats and late hay harvest was about finished and housed in good condition.

## BULLETIN NO. 18.

Atlantic City, N. J., August 8, 1905.

Local thunderstorms occurred in some portions of all sections on July 30th, 31st and August 1st and 6th, but were very badly distributed. The droughty conditions continued in some portions of all sections and seriously affected vegetation, especially potatoes, corn and field tomatoes. Apples continued dropping in the droughty places and corn was rolling, and, in some fields, scalding. Hauling water for domestic and stock purposes had become a necessity in some places. Early seeded buckwheat was heading nicely, and was in very promising condition. The oats harvest was completed and the crop housed in fine order, and a good yield of grain was promised, but the straw was short. The harvesting of meadow and marsh hay was progressing in the Southern Section.

The following table shows the total normal rainfall in inches, for the months of March, April, May, June and July, together with the actual for the same period and the total deficiency from March 1st, to July 31st, 1905.

Stations.	Normal.	Actual.	Deficiency
Sussex .....	20.23	12.70	—7.53
Belvidere .....	21.02	13.73	—7.29
Lambertville .....	21.77	13.67	—8.10
Somerville .....	19.91	15.06	—4.85
New Brunswick .....	20.21	14.12	—6.09
Trenton .....	21.49	12.84	—8.65
Moorestown .....	18.64	14.45	—4.19
Vineland .....	19.63	19.61	—0.02
Cape May .....	17.13	13.55	—3.58
Atlantic City .....	16.63	14.76	—1.87

## BULLETIN NO. 19.

Atlantic City, N. J., August 15, 1905.

Heavy rains fell in all sections of the State, but more was needed in portions of Warren, Sussex, Hunterdon, Mercer and Middlesex Counties to replenish the springs and streams and insure good yields of the late crops which, however, had been greatly stimulated and improved; fall plowing which was much delayed by the drought was progressing.

Watermelons, canteloupes and cucumbers were being marketed. Cranberries made a good growth and were more promising. Sweet potatoes were growing nicely and a good yield was indicated. The outlook for field tomatoes was not promising, but frequent showers followed by hot sunshine having caused the fruit to ripen prematurely in some fields; these conditions were unfavorable to the maturing grapes, some rotting having been reported.

Threshing of wheat, rye and oats was progressing and yields were up to the average.

## BULLETIN NO. 20.

Atlantic City, N. J., August 22, 1905.

The week ending Saturday, August 19th, was characterized by very destructive thunderstorms in widely separated places on the 13th and 15th. They were especially severe in portions of Burlington, Middlesex and Somerset counties, where hail and high winds did considerable damage to crops and farm property. Much fruit was blown from the trees in portions of Burlington county and some fields of corn were prostrated. The latter half of the week was unusually cool, retarding the maturing crops. The rains were highly beneficial and sufficient, the ground being thoroughly soaked.

Corn, buckwheat and truck crops generally were greatly benefited and improved. Sweet potatoes and melons of all kinds were in good maturing condition. Apples continued dropping in many localities and the prospects were that the crop would be decidedly below the average; peaches, in places, were maturing nicely, while in others very few remained on the trees.

## BULLETIN NO. 21.

Atlantic City, N. J., August 29, 1905.

The temperature during the week was slightly below the normal, the first and last two days being unusually cool, the temperature falling to 49 degrees in some places, while the middle of the week was warm and pleasant. The warmest days were the 22nd, 23rd and 24th, when the maximum temperature ranged from 88 to 94 degrees.

Corn was steadily improving and the early planted was maturing well. Garden truck crops were in good growing condition.



The cool weather retarded those maturing; sweet potatoes very promising and lima beans were improving; all kinds melons were going freely to market and the quality was better than last year. Late round potatoes were about the average in all places in the Southern, but in the Middle and Northern sections the outlook was for not more than one-half of an average crop, principally owing to the long drought in July and heavy rains following, which caused a second growth in the fields. Apples continued dropping and the prospects for early yield were growing less as the season advanced; late varieties and Keiffer pears were developing nicely. Early peaches were shipped to market from some places. The harvesting of the early light second crop of hay was progressing, and the cutting of early seeded buckwheat was begun.

## BULLETIN NO. 22.

Atlantic City, N. J., September 5, 1905.

The week was generally favorable for the maturing crops although the nights were rather cool. The temperature averaged about 4 degrees above the daily normal, the maximum temperatures ranging from 71 to 81 degrees and the minimum from 65 degrees. Light local showers occurred on the 29th and 30th and a general rain on the 2nd and 3rd. The cutting of hay was begun in some places. Potato digging was brought to a stop by the heavy rains at the close of the week. The potatoes were of good size and quality, but the yield was decidedly below the average, especially in the Central and Northern

sections. All garden truck was in fine growing and maturing condition and pasturage was greatly improved by the rains; considerable seeding of grain and grass was done, the ground being in fine condition. In the Southern section sweet potatoes were most promising and the indications were that the yield would be a large one. Tomatoes were going freely to the canneries. Cranberry picking began and the prospects were that the yield would be less than last year. Indications were that apples and pears, except Keiffer, would be below the average in all sections.

## BULLETIN NO. 23.

Atlantic City, N. J., September 12, 1905.

The temperature during the week ranged from 1 to 2 degrees below the daily normal, the maximum temperature ranging from 60 degrees to 85 degrees, and the minimum from 50 to 69 degrees. No rain had fallen in any of the districts since the 4th and none was needed, as the ground was well soaked and the wells and streams were full of water. The prevailing weather conditions were favorable for the growth and development of all late truck crops, but the nights were a little too cool for the best development of the late planted corn. The prospects were that if frost held off, the latter crop would be a full average both in grain and fodder. Plowing and seeding progressed in places. The gathering of tomatoes and potatoes, and other crops was nearing the finish; newly seeded meadows obtained a good stand, and pasturage in all sections was excellent.

## Climatological Data for the Year 1905.

STATIONS.	COUNTIES.	Elevation, feet.	Length of record, years.	Temperature in degrees Fahrenheit.					Precipitation in inches.					Total snowfall.	Number of rainy days.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing direction of wind.
				Annual mean.	Highest.	Date.	Lowest.	Date.	Length of record.	Total for the year.	Greatest monthly.	Month.	Least monthly.	Month.					
Highlands and Tully Valley.	Sussex.	550	6	46.7	95	July 17-18.	-17	Feb. 5.	6	39.02	6.63	Aug.	0.87	Feb.	38.0	107	240	71	54 S. W.
	Sussex.	492	11	49.1	96	July 18.	-12	{ Jan. 31 } { Feb. 5 }	11	37.91	6.59	Jan.	0.87	Feb.	51.5	96	212	85	65 W.
	Sussex.	678	26	48.2	93	{ July 17, 18 } { 19..... }	-12	Jan. 31.	26	50.47	8.60	Sept.	1.67	Feb.	47.8	110	168	101	96 S. W.
	Warren.	289	14	50.0	96	July 18.	-7	Jan. 31.	14	38.74	5.95	Jan.	0.87	May.	45.5	91	210	59	92 .....
	Passaic.	719	13	47.6	93	July 18.	-13	Jan. 5.	13	43.21	7.13	Jan.	1.48	May.	12.2	97	191	117	57 W.
	Morris.	575	21	47.6	95	July 18.	-6	Jan. 31.	21	48.12	8.73	Sept.	1.34	May.	42.6	112	55	187	123 .....
	Morris.	860	13	...	95	July 18.	...	...	13	...	9.18	Sept.	1.39	May.	...	...	...	...	...
	Warren.	196	3	51.0	98	July 18.	-2	{ Jan. 31. } { Feb. 14-16 }	3	38.98	5.69	Sept.	0.95	May.	41.7	126	186	87	92 W.

## Climatological Data for the Year 1905.—(Continued.)

STATIONS.	COUNTIES.	Elevation, feet.	Length of record, years.	Temperature in degrees Fahrenheit.						Precipitation in inches.						Total snowfall.	Number of rainy days.	Number of cloudy days.	Number of partly cloudy days.	Number of cloudy days.
				Annual mean.	Highest.	Date.	Lowest.	Date.	Length of Record.	Total for the year.	Greatest Monthly.	Month.	Least Monthly.	Month.						
Red Sand Stone Plain																				
Paterson.....	Passaic.....	110	31	52.4	99	July 18.....	2	Jan. 26.....	31	45.24	6.24	Sept.....	1.43	May.....	33.2	115	102	199	6	
River Vale.....	Bergen.....	70	14	48.2	99	July 17.....	—18	Feb. 5.....	14	40.21	5.65	Sept.....	0.52	May.....	55.0	83	236	59	7	
Englewood.....	Bergen.....	135	11	49.9	95	July 18.....	—3	Jan. 26.....	11	47.53	7.58	Sept.....	1.06	May.....	38.8	118	134	88	14	
Newark.....	Essex.....	140	61	51.3	97	July 18.....	—1	Jan. 26.....	61	42.21	6.27	{ July. } { Sept. }	1.25	May.....	30.6	116	149	116	10	
South Orange.....	Essex.....	187	35	50.0	96	July 18.....	—1	Jan. 26.....	35	44.35	6.68	Sept.....	1.21	May.....	36.0	104	167	91	10	
New York, N. Y.....	New York.....	314	33	52.0	96	July 18.....	0	Jan. 26.....	33	44.48	7.11	Sept.....	1.12	May.....	30.2	124	120	130	11	
Bayonne.....	Hudson.....	50	15	51.5	98	July 18.....	0	Feb. 5.....	15	42.57	5.60	Aug.....	1.11	May.....	31.9	120	148	100	11	
Bergen Point.....	Hudson.....	37	8	51.0	97	July 18.....	—1	Jan. 26.....	8	44.01	6.69	Sept.....	1.50	May.....	36.4	110	127	167	7	
Plainfield.....	Union.....	100	14	50.6	98	July 18.....	—4	Feb. 5.....	14	50.30	8.49	Sept.....	0.98	May.....	30.2	120	125	157	8	
Elizabeth.....	Union.....	33	26	.....	100	July 17-18.....	—1	Feb. 4-5.....	26	.....	5.55	Sept.....	1.78	Nov.....	.....	.....	.....	.....	.....	
Somerville.....	Somerset.....	76	15	.....	102	July 18.....	—5	Feb. 5.....	15	46.44	9.37	Aug.....	0.42	May.....	31.0	101	166	64	13	
Flemington.....	Hunterdon.....	187	8	51.7	100	July 18.....	—6	Feb. 15.....	8	40.24	8.67	Aug.....	0.64	May.....	23.5	113	201	83	7	
Lambertville.....	Hunterdon.....	95	19	51.8	98	July 18.....	—2	{ Jan. 31. } { Feb. 15. }	19	41.06	8.07	Aug.....	1.13	May.....	35.0	104	214	80	7	
New Brunswick.....	Middlesex.....	61	48	52.6	100	July 18.....	—1	Feb. 5.....	48	38.19	5.15	Aug.....	1.49	May.....	30.0	108	131	170	6	
College Farm.....	Middlesex.....	100	10	.....	100	July 18.....	—5	Feb. 5.....	10	38.80	4.96	Aug.....	1.83	{ May } { June }	.....	106	206	94	6	
Southern Interior.																				
Trenton.....	Mercer.....	60	29	55.0	96	July 18.....	1	Jan. 26.....	29	34.28	4.73	Aug.....	1.72	May.....	23.0	79	67	219	7	
Hightstown.....	Mercer.....	85	13	50.3	97	July 18.....	—5	Feb. 5.....	13	40.12	4.86	Sept.....	2.08	Nov.....	35.8	104	119	83	16	
Imlaystown.....	Monmouth.....	100	18	52.6	97	July 18.....	—3	Feb. 5.....	18	38.58	5.76	Sept.....	1.55	May.....	23.3	93	166	127	7	
Moorestown.....	Burlington.....	71	31	51.9	96	July 18.....	—1	Feb. 5.....	31	38.88	5.66	Aug.....	1.31	May.....	28.0	127	135	101	12	
Rancocas.....	Burlington.....	68	16	.....	.....	.....	.....	.....	.....	40.70	4.57	Mar.....	1.51	May.....	22.7	117	161	75	17	
Brown's Mills.....	Burlington.....	71	..	.....	99	July 18.....	.....	.....	.....	.....	4.20	Aug.....	.....	.....	.....	.....	.....	.....	.....	
Lakewood.....	Ocean.....	54	4	51.4	95	July 18.....	—3	Feb. 5.....	4	42.69	6.16	July.....	0.59	May.....	31.5	111	208	107	8	
Indian Mills.....	Burlington.....	76	4	52.7	100	July 18.....	—3	Feb. 5.....	4	44.07	8.02	Aug.....	1.51	May.....	28.8	118	177	115	7	
Beverly.....	Burlington.....	30	20	52.2	99	July 18.....	—2	Feb. 5.....	20	42.22	7.63	Aug.....	1.93	Nov.....	23.7	125	126	159	1	
Philadelphia, Pa.....	Philadelphia.....	..	36	59.4	99	July 18.....	3	Feb. 3.....	.....	41.61	9.57	Aug.....	1.41	May.....	26.8	128	122	106	13	
Clayton.....	Gloucester.....	126	8	.....	97	July 19.....	—3	{ Jan. 31. } { Feb. 3. }	8	.....	4.66	Sept.....	1.56	May.....	30.0	.....	.....	.....	.....	
Vineland.....	Cumberland.....	118	33	52.4	98	July 18.....	—4	Feb. 3-4.....	33	45.34	5.65	Sept.....	1.24	Oct.....	23.2	114	153	148	8	
Bridgeton.....	Cumberland.....	30	18	54.4	100	July 18.....	—3	Feb. 5.....	18	48.07	5.72	Aug.....	1.55	Nov.....	18.0	95	192	59	11	
Woodstown.....	Salem.....	16	4	.....	.....	.....	.....	.....	4	.....	8.71	June.....	1.39	Oct.....	.....	.....	.....	.....	.....	
Salem.....	Salem.....	16	9	.....	98	July 18.....	.....	.....	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Friesburg.....	Salem.....	100	12	52.6	98	July 18.....	—1	{ Jan. 31. } { Feb. 4. }	12	42.88	5.67	June.....	1.76	Nov.....	20.9	116	143	157	1	
Canton.....	Salem.....	24	3	.....	.....	.....	.....	.....	3	.....	5.16	July.....	1.33	Nov.....	.....	.....	208	78	?	
Toms River.....	Ocean.....	33	12	.....	100	July 18.....	.....	.....	12	.....	4.70	Dec.....	0.68	May.....	.....	.....	.....	.....	.....	
Tuckerton.....	Ocean.....	23	8	51.1	100	July 18.....	—4	Feb. 3.....	8	46.55	9.88	Aug.....	0.93	Nov.....	26.5	97	149	140	1	
Pleasantville.....	Atlantic.....	26	4	.....	.....	.....	.....	.....	4	38.84	7.20	Aug.....	0.61	Nov.....	.....	109	202	99	1	
Woodbine.....	Cape May.....	43	13	52.5	99	July 18.....	—1	Feb. 4.....	13	36.38	5.20	Aug.....	0.65	Nov.....	25.5	82	227	88	1	
Cape May C. H.....	Cape May.....	19	17	53.4	97	July 18.....	3	Feb. 4-5.....	17	41.09	8.31	Aug.....	0.89	Nov.....	27.5	90	142	140	1	
The Sea Coast.																				
Sandy Hook.....	Monmouth.....	14	2	51.5	99	July 18.....	0	Jan. 27.....	2	39.98	5.53	July.....	1.28	May.....	35.0	128	138	78	1	
Oceanic.....	Monmouth.....	16	18	51.2	95	July 19.....	0	{ Jan. 5-26 } { Feb. 16. }	18	39.17	5.53	July.....	1.23	Nov.....	22.6	120	162	135	1	
Asbury Park.....	Monmouth.....	22	16	51.4	100	July 18.....	0	Jan. 26.....	16	.....	5.82	July.....	0.95	May.....	35.7	117	164	90	1	
Atlantic City.....	Atlantic.....	53	31	51.7	99	July 18.....	3	Feb. 3.....	31	39.17	6.22	Aug.....	1.01	Nov.....	24.2	119	117	95	1	
Cape May.....	Cape May.....	11	31	52.4	92	July 19.....	5	Feb. 5.....	31	39.50	8.31	Aug.....	0.54	Nov.....	24.9	113	112	183	1	



Monthly and Annual Mean Temperatures, for the Year 1905, with Departures from Normal.

	January.		February.		March.		April.		May.		June.		July.		August.		September		October.		November		December.		Annual.	
STATIONS.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.
Atlantic and Kittatinny Valley.																										
Atlantic City	20.8	-1.2	16.8	-4.6	33.5	-3.6	46.8	+0.4	59.1	+0.4	66.0	+0.4	71.4	+0.1	66.7	-1.3	61.2	-2.1	51.0	+0.6	36.2	-3.4	31.2	+5.8	46.7	-0.8
Atlantic City	23.6	-2.7	19.4	-6.4	36.6	+0.2	49.0	-0.2	60.8	+0.6	67.2	-0.9	73.2	+0.6	68.6	-2.1	63.4	-1.0	54.0	+1.2	39.4	-2.8	34.0	+3.5	49.1	-0.8
Atlantic City	23.0	-2.7	18.7	-9.8	35.8	+1.3	48.5	+0.2	59.8	+0.3	66.6	-2.5	72.6	-0.1	67.0	-3.6	62.5	-1.6	52.0	+0.3	38.2	-2.6	33.9	+2.8	48.2	-1.5
Atlantic City	23.9	-2.7	21.0	-5.9	38.1	+1.0	50.6	+1.3	62.5	+1.8	68.5	-1.1	74.4	+0.9	70.0	-1.9	64.8	-0.8	52.7	-0.5	40.7	-0.3	33.4	+2.3	50.0	-0.5
Atlantic City	23.2	-4.0	21.8	-4.0	35.4	+0.5	47.0	+0.2	58.5	+1.1	64.8	-0.9	70.9	+0.6	66.0	-2.6	61.5	-0.8	50.8	-0.4	38.2	-2.7	33.0	+2.2	47.6	+1.0
Atlantic City	22.4	-4.0	19.8	-7.5	35.5	+1.4	46.6	-1.3	59.0	+0.2	65.8	-2.0	71.8	+0.3	67.6	-2.3	61.0	-2.0	51.0	+0.1	38.4	-2.6	32.4	+1.0	47.6	-1.6
Atlantic City	21.1	-4.0	37.4	+1.4	47.4	-0.1	59.4	+1.0	65.8	-1.4	72.6	+0.9	71.4	-0.5	65.8	-0.7	62.3	-0.7	54.6	+1.9	40.5	-1.3	35.4	+5.4	51.0	-0.3
Atlantic City	25.0	-1.9	21.6	-6.6	38.8	+2.5	50.5	+1.1	62.6	+2.6	69.6	-0.9	75.6	+1.1	71.4	-0.5	65.8	+0.6	54.6	+1.9	40.5	-1.3	35.4	+5.4	51.0	-0.3
Average for District.	23.1	-3.4	20.0	-6.7	36.4	+0.9	48.3	+0.3	60.2	+1.2	66.8	-1.1	72.8	+0.9	68.2	-2.0	62.8	-0.8	52.3	+0.5	38.8	-2.0	33.3	+2.3	48.6	-0.7
Sand Stone Plain.																										
Atlantic City	27.8	-0.8	25.2	-5.3	40.6	+2.3	52.0	+1.5	62.5	+1.2	69.4	-0.9	75.8	+1.6	71.8	-0.5	66.4	+0.1	56.4	+2.6	43.8	+1.0	37.4	+4.4	52.4	-0.6
Atlantic City	23.4	-4.8	19.2	-8.2	36.7	-0.7	47.6	-0.4	59.8	+0.7	65.2	-3.2	72.4	-0.5	68.0	-2.9	62.3	-1.5	51.6	-1.6	39.4	-2.6	33.4	+2.0	48.2	-2.0
Atlantic City	26.4	-1.7	22.4	-6.1	38.5	+1.2	49.8	+1.5	60.6	+0.4	66.6	-2.2	72.8	-0.6	68.6	-4.0	62.8	-2.7	53.8	-0.4	41.6	-3.0	35.0	+2.8	49.9	-1.2
Atlantic City	26.6	-2.5	23.2	-7.4	39.4	+1.9	50.4	+5.3	61.0	+1.3	68.6	-0.6	74.8	+0.7	71.0	-1.0	65.7	+0.9	55.4	+2.0	43.2	+0.2	36.7	+3.9	51.3	+0.4
Atlantic City	25.6	-3.1	22.8	-7.0	38.2	+2.1	49.0	+0.9	60.0	-0.4	67.6	-1.6	73.9	+0.9	69.5	-1.6	63.8	-0.1	53.2	+0.5	41.4	0.0	35.5	+3.2	50.0	-0.6
Atlantic City	27.5	-3.4	24.6	-6.9	40.0	+3.1	49.8	-1.8	60.5	+1.0	68.8	-0.2	75.4	+1.9	72.2	-0.1	66.8	+0.9	56.9	+1.9	43.8	+0.4	37.7	+3.3	52.0	+0.3
Atlantic City	26.9	-3.0	23.8	-6.0	39.0	-0.2	50.0	-0.1	60.7	-0.2	68.5	-2.2	75.0	-0.2	72.0	-2.4	66.5	-1.7	55.8	-0.4	43.0	-1.2	36.9	+2.5	51.5	-1.3
Atlantic City	26.4	-5.4	23.0	-6.6	39.2	-1.4	49.6	-0.3	60.3	+0.4	67.8	-2.7	74.6	-0.6	71.2	-2.3	65.6	-1.7	55.4	-1.7	42.6	-2.4	36.4	+2.9	51.0	-1.8
Atlantic City	25.8	-3.2	22.5	-6.4	39.0	+0.6	49.8	+0.4	60.8	+0.6	68.2	-1.7	74.9	+0.1	71.1	-2.3	65.0	-1.2	53.6	-0.7	41.2	-1.4	35.4	+2.2	50.6	-1.1
Atlantic City	27.8	-2.0	24.3	-7.1	40.4	+3.1	51.6	+0.9	63.5	+3.8	68.8	76.0	+0.6	72.2	-1.9	66.4	-1.3	55.4	42.0	-1.4	37.0	+3.5	51.3	52.4	-0.6	
Atlantic City	25.6	-2.3	23.1	-7.0	39.6	+1.1	50.0	0.0	61.6	+0.3	68.6	-1.6	74.9	0.0	71.0	-4.1	65.4	54.5	+0.1	40.8	-2.6	35.3	+1.7	51.3	52.4	
Atlantic City	28.1	-1.4	24.3	-2.6	40.5	0.0	50.2	+0.2	62.0	+1.4	69.4	-1.6	75.8	-0.1	71.3	-2.6	65.8	-1.2	55.6	-0.9	41.4	-2.1	35.7	+3.8	51.7	-0.6
Atlantic City	27.2	-2.5	22.7	-8.2	40.4	+2.3	51.0	+0.5	63.4	+1.9	70.2	-0.5	75.7	+1.2	72.2	-0.7	66.2	+0.2	55.4	+1.5	41.7	-1.5	36.1	+2.2	51.8	-0.3
Atlantic City	27.1	-3.3	24.2	-7.9	40.8	+2.4	51.5	+1.9	63.2	+2.8	70.2	+0.7	76.8	+2.7	73.3	+0.9	67.6	+2.0	56.7	+2.2	43.2	-0.4	36.8	+3.0	52.6	+0.6
Atlantic City	26.8	-3.4	22.4	-6.5	42.2	+1.5	51.5	61.2	-0.2	68.3	-1.6	74.6	-0.9	70.9	-2.5	65.0	-1.8	54.8	-1.2	41.5	-3.5	36.0	+3.1	51.3	52.6	
Average for District	26.6	-2.5	23.2	-6.8	39.6	+1.7	50.2	+0.5	61.4	+1.0	68.4	-1.4	74.9	+0.8	71.1	-1.4	65.4	-0.4	54.9	+1.1	42.0	-0.8	36.1	+2.3	51.1	-0.4
Southern Interior.																										
Atlantic City	31.3	28.2	43.8	52.8	63.8	70.2	77.0	73.4	67.6	57.6	44.6	47.5	55.0	27.5	22.4	16.8	39.4	49.6	59.5	68.2	74.7	73.7	69.2	64.0	58.8	
Atlantic City	27.5	-2.2	22.4	-6.8	39.4	-0.9	49.6	-1.7	59.5	-2.2	68.2	-2.4	73.7	-1.7	69.2	-4.2	64.0	-3.3	53.6	-1.6	41.4	-2.9	35.6	+1.9	50.3	-2.3
Atlantic City	27.7	-4.0	24.5	-7.0	42.2	+3.2	51.2	+0.6	62.7	+0.5	69.6	-1.8	75.9	+0.6	72.4	-1.2	66.2	-0.4	56.5	+1.5	43.9	-0.8	38.3	+3.0	52.6	-0.5
Atlantic City	27.7	-2.5	24.2	-7.7	41.0	+2.9	50.8	+1.5	62.2	+1.2	68.9	-1.3	75.2	+0.8	71.6	-0.6	66.0	-0.4	56.3	+2.2	42.7	-0.3	36.6	+3.1	51.9	-0.1
Atlantic City	28.4	24.6	40.7	50.0	61.6	67.7	73.2	70.2	64.9	55.8	42.7	37.3	31.4	25.4	19.4	13.4	7.4	1.4	4.4	0.4	4.4	0.4	4.4	0.4	4.4	0.4
Atlantic City	28.4	25.4	42.4	51.0	63.4	69.6	75.4	72.8	67.2	56.8	42.8	37.4	31.4	25.4	19.4	13.4	7.4	1.4	4.4	0.4	4.4	0.4	4.4	0.4	4.4	0.4
Atlantic City	27.9	-3.0	24.3	-7.5	41.0	+1.9	50.9	-0.4	62.5	+0.5	69.5	-1.8	76.2	+0.8	72.4	+1.2	66.5	-0.5	55.9	+1.4	42.9	-1.1	36.8	+2.2	52.2	-0.8
Atlantic City	29.8	-2.3	26.3	-6.7	42.9	+2.8	52.6	+1.3	63.5	+0.8	70.8	-1.0	76.9	+0.5	73.6	-1.0	68.6	+0.7	57.9	+1.3	45.2	+0.4	39.2	+3.6	54.9	0.0
Atlantic City	27.3	-4.5	23.4	-6.3	43.0	+0.7	50.0	-0.5	62.4	+1.2	69.0	-1.7	74.4	-2.1	70.8	-1.3	66.6	-1.3	57.0	-0.8	42.8	-2.5	36.8	+1.9	51.9	-0.1
Atlantic City	28.2	-3.4	25.2	-8.1	42.4	+2.9	50.6	+0.1	62.6	+0.4	68.4	-3.8	75.0	-1.8	72.4	-1.4	67.2	+0.4	56.7	+1.5	43.0	-0.6	36.6	+2.1	52.4	-1.0
Atlantic City	29.8	-4.6	26.0	-8.9	44.2	+2.3	53.2	+0.6	65.6	+1.2	72.4	-1.3	77.2	-0.3	74.6	-1.2	68.4	-0.4	59.0	+2.2	44.5	-1.9	38.0	+0.5	54.4	-1.0
Atlantic City	28.8	-5.0	24.7	-4.8	42.3	-0.4	51.2	-0.7	63.2	+2.0	69.4	-1.8	75.0	-1.9	72.2	-2.8	67.0	-1.0	56.7	-1.2	43.4	-2.2	37.0	+2.4	52.6	-1.3
Atlantic City	28.9	-2.1	24.8	-5.1	39.8	-1.3	48.5	+0.2	60.0	-0.1	68.0	-0.8	74.6	-0.2	70.9	-2.2	65.2	-1.2	55.0	-1.4	42.2	-2.1	35.2	+2.0	51.1	+1.2
Atlantic City	29.6	-2.2	26.6	-4.4	41.6	+0.4	50.2	+0.1	61.6	+0.9	69.2	-0.2	74.0	0.0	72.5	-0.4	66.4	-0.3	57.4	+1.3	42.6	-2.3	38.1	+2.8	52.5	-0.3
Atlantic City	30.6	-4.5	27.5	-6.6	42.4	+1.2	50.9	+0.4	61.8	+1.3	68.8	-1.3	75.4	+1.4	73.3	-0.3	67.6	-0.3	58.1	+1.5	45.4	-1.9	39.0	+0.7	53.4	-0.7
Average for District	28.9	-2.6	25.2	-6.8	41.8	+2.0	50.8	+0.5	62.5	+0.9	69.3	-1.5	75.1	0.0	72.1	-1.2	66.5									

## Monthly Maximum Temperatures for the Year 1905, With Dates.

	January.		February.		March.		April.		May.		June.		July.		August		September.		October.		November.		December.	
STATIONS.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	
Highlands and Kittatinny Valley.																								
Layton.....	51	1-2	45	21-25	83	29	78	27	85	29	93	19	95	17-18	88	*11	87	30	87	1	65	12	4	
Sussex.....	53	1	45	21	86	29	77	26	85	28	91	19	96	18	88	23	85	30	85	1	59	29	12	
Newton.....	54	1	42	21-25	84	29	75	27	83	29	90	19	93	*17	92	12	86	30	89	1	60	29	12	
Belvidere.....	57	1	51	21	87	29	79	27	88	4	94	19	96	18	90	24	87	30	87	1	61	6-29	12	
Charlotteburg.....	53	1	43	*25	82	29	74	27	83	28	88	19	93	18	88	24	82	4	83	9	60	30	12	
Dover.....	51	1	44	21	83	29	75	21	83	4	90	19	95	18	90	24	87	30	81	9	59	29	12	
Chester.....	51	1	49	21	82	29	76	27	83	4	93	19	95	18	88	30	88	30	88	1	63	29	12	
Phillipsburg.....	54	1	47	21	85	29	77	21	88	4	96	19	98	18	94	24	88	30	88	1	63	29	12	
Red Sand Stone Plain.																								
Paterson.....	54	1	48	21	81	28-29	82	21	86	7	90	18	99	18	92	11	89	30	86	9	66	25-29	5	
River Vale.....	50	1	42	21	80	28	75	21	84	29	90	18	99	17	89	24	88	30	82	9	64	24-29	5	
Englewood.....	53	1	42	21-22	76	29	81	21	83	7	88	22	95	18	88	11	84	30	78	5-9	62	29-30	5	
Newark.....	53	1	44	21	79	28	81	21	82	7	91	18	97	18	91	24	86	30	83	9	64	29	5	
South Orange.....	52	1	44	21	76	*28	78	21	82	7	90	19	96	18	87	*11	81	30	78	9	63	29	5	
New York, N. Y.....	52	7	46	21	74	29	76	21	80	7	90	18	96	18	88	11	84	30	80	9	63	29	5	
Bayonne.....	51	1	50	21	77	28	81	21	82	7	91	19	98	18	91	11	87	30	86	9	65	29	6	
Bergen Point.....	53	1	45	21	78	28	81	21	83	7-26	89	18-19	97	18	90	7-11	86	30	82	9	64	24-29	5	
Plainfield.....	52	1	46	21	82	29	80	21	83	4-15	93	18	98	18	90	*11	86	30	84	9	64	29	6	
Elizabeth.....	52	1	48	25	83	29	82	21	88	4	90	17-18	92	12	86	30	86	30	86	9	64	29	5	
Somerville.....	55	1	47	21	81	*28	82	21	86	16	93	19	102	18	91	13	85	30	85	9	64	29	5	
Flemington.....	56	1	57	21	83	29	79	21	86	15	95	19	100	18	91	23	90	30	86	9	66	29	5	
Lambertville.....	56	1	47	21	82	29	80	21	86	15	94	19	98	18	90	24	86	30	86	1	65	29	5	
New Brunswick.....	53	1	53	21	83	29	80	21	87	4	94	17	100	18	92	*13	89	30	85	9	66	29	6	
College Farm.....	53	1-7	47	21	85	29	82	27	84	15	88	13-22	100	18	90	24	85	30	85	1	65	29-30	6	
Southern Interior.																								
Trenton.....	58	1	51	21	79	28	78	11	84	15	91	19	96	18	90	24	83	30	82	1	65	24-29	5	
Hightstown.....	52	1	52	26	82	29-30	82	21	86	7	92	19	97	18	90	24	85	30	80	5	64	6	6	
Imlaystown.....	56	1	46	13-21	82	29	81	21	84	4	93	19	97	18	90	24	84	30	81	*1	67	24	6	
Moorestown.....	54	1	45	21	81	29	80	21	84	*27	91	*19	96	18	90	24	84	29	87	1	67	24	6	
Brown's Mills.....	54	1	45	21	81	29	80	21	84	86	15	94	2	99	18	93	24	84	3-30	84	1	67	24-29	6
Lakewood.....	59	2	46	25	83	29	82	21	88	14	91	22	95	18	89	24	85	30	81	5	68	24	6	
Indian Mills.....	58	1	50	25	82	29	84	21	87	15	96	19	100	18	95	24	86	19-30	90	1	68	24	6	
Beverly.....	58	1	52	21	80	29	80	21	84	27	94	19	99	18	90	23-24	85	30	87	1	66	24	6	
Philadelphia, Pa.....	58	1	45	21	79	29	79	21	84	7	94	19	98	18	90	23	86	1	86	1	66	29	6	
Clayton.....	57	1	49	25	80	29	79	11	85	27	94	19	97	19	90	88	19	87	1	68	24	6		
Vineland.....	57	1	50	25	82	29	81	11-21	87	15	95	19	98	18	95	23	89	19	89	1	73	25	6	
Bridgeton.....	60	1	50	25	81	29	83	11	89	12-28	95	6-22	100	18	95	7	89	30	89	1	68	24	6	
Salem.....	58	1	47	25	81	28-29	85	11-21	86	*12	96	19	98	18	93	23	88	19-20	87	1	68	29	5	
Friesburg.....	60	1	47	25	81	29	81	11-21	86	15	95	19	98	18	93	23	88	19-20	87	1	68	29	5	
Toms River.....	57	2	44	*13	78	28	82	21	88	15	99	6-22	100	18	92	*7	89	30	87	9	70	24	6	
Tuckerton.....	57	2	44	*13	78	28	82	21	88	7	89	19-26	100	18	91	13	82	30	78	1-9	64	1-12	5	
Woodbine.....	58	1-6	47	13-25	78	28	78	11	85	12	92	19	99	18	92	15	85	20-30	85	1	68	26	6	
Cape May, C. H.....	59	1	47	24	80	29	78	11	85	12	91	19	97	18	88	13-23	84	30	84	1	70	24	6	
Sea Coast.																								
Sandy Hook.....	49	1	45	21	73	28	77	21	82	4	90	18	99	18	89	11	86	30	82	9	64	24	5	
Oceanic.....	54	1	44	13	78	28	78	21	83	7	90	18	95	19	88	11-12	82	30	80	5	68	24	6	
Asbury Park.....	56	1	43	13-26	78	29	74	10	84	7-8	91	6	100	18	89	7-8	82	22	83	5	67	24	5	
Atlantic City.....	59	1	46	12	69	31	72	30	83	7	88	6	99	18	89	7	86	30	83	1	66	6	5	
Cape May City.....	57	1	44	12	66	27-31	70	25	81	7-30	88	6	92	19	85	30	82	30	82	1	64	6	5	

\*Also on other dates.



Monthly Minimum Temperatures for the Year 1905, with dates

STATIONS.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.
Highlands and Kittatiny Valley.																								
on.....	-16	31	-17	5	-7	5	18	3-19	22	22	36	9	42	26	43	19-28	28	27	17	27-30	8	*14	5	18
EX.....	-12	31	-12	5	2	5	24	19	29	2	40	4	49	26-27	44	19	33	27	26	30-31	14	14-15	11	15
ton.....	-12	31	-9	5	3	5	24	19	29	2	41	4	47	27	43	*19	33	27	22	26	14	14	11	15-18
idere.....	-7	31	-5	4-5	5	5	25	19	30	2	43	4	50	26-27	48	19-28	35	27	26	30	11	14	12	18
lotteburg.....	-13	5	-6	1	4	5	19	19	30	2-22	35	4	42	26-27	36	28	28	27	19	27	6	15	9	18
er.....	-6	31	-2	5	17	5	24	19	30	2	39	4	47	26-27	44	19-28	31	27	25	*21	12	15	13	1
ter.....	-4	15	8	2	22	19	30	2	43	4	48	29	.....	34	27	.....	34	27	.....	.....	.....	.....	.....	.....
lipsburg.....	-2	31	-2	14-16	8	5	28	3-19	34	2	45	4	53	26-27	49	19	37	27	29	27-30	15	14	15	1
Red Sand Stone Plain.																								
erson.....	2	26	4	*4	12	5	29	19	36	2	48	2-4	56	26-27	51	*17	39	27	31	*27	19	14-15	17	1-15
ir Vale.....	-15	31	-18	5	3	5	20	8	26	2	37	4	45	26-27	44	19-28	29	27	25	31	10	15	8	18
ewood.....	-3	26	-2	5	10	5	29	3-19	36	2	45	4	54	26	47	28	36	27	31	30	18	14-15	14	1-15
ark.....	-1	26	1	5-16	10	5	29	19	35	2	47	4	56	27	51	19-28	37	27	30	27-31	18	14	15	1-15
na Orange.....	-1	26	2	4-6	9	5	27	19	32	2	46	4	53	27	50	28	36	26-27	32	27-31	18	14	16	1-15
York, N. Y.....	0	26	4	16	14	5	31	17	41	2	51	8	61	27	57	28	46	26	37	27	19	30	19	1
anne.....	1	26	0	5	11	5	30	19	35	2	49	*4	57	26	52	17-19	41	27	31	27	18	14	15	1
en Point.....	-1	26	0	5	12	5	28	19	34	2	48	4-9	55	26	52	28	39	27	32	27-30	18	14	15	1
field.....	0	26	-4	5	10	5	26	19	32	2	43	4	51	26	49	28	36	26	29	22-31	15	15	15	1
lbeth.....	2	26	-1	4-5	11	5-6	29	17	35	2	.....	.....	54	27	51	28	38	27	.....	.....	14	15	15	1
orville.....	-1	31	-5	5	9	5	23	19	29	2	42	4	51	27	49	18	35	26-27	26	*31	14	15	13	1
ington.....	-4	31	-6	15	6	5	24	19	29	2	43	4	50	27	49	19	36	27	29	27-31	15	15	17	1
bertville.....	-2	31	-2	15	7	5	26	19	32	2	44	4	53	26-27	49	19	38	26-27	28	30	16	15	16	1
e Brunswick.....	0	31	-1	5	10	5	27	19	33	2	46	4	54	27	50	28	37	27	30	31	18	15	16	1
orge Farm.....	-1	26	-5	5	6	5	27	3-19	31	2	45	4-9	51	27	49	19-20	35	27	27	31	15	15	13	1
Southern Interior.																								
on.....	1	26	3	16	17	5	33	*3	40	2	50	3	60	26-27	55	*17	41	27	33	27	19	15	16	28
igstown.....	-2	31	-5	5	7	5	24	19	32	2	42	4	51	27	47	19-28	33	28	28	27-31	15	15	12	1
onstown.....	0	26	-3	5	4	5	27	3-19	34	2	47	9	56	26	51	19	38	27	32	*27	19	15-30	16	1
icstown.....	0	31	-1	5	9	5	26	19	34	2	45	2	55	26-27	50	19	37	27	29	31	15	15	15	1-2
on's Mills.....	.....	.....	.....	.....	.....	.....	.....	.....	32	2	44	7	48	26-27	44	28	34	27	25	31	8	15	7	18
wood.....	0	26	-3	5	9	5	25	19	32	2	44	9	53	26	49	19	36	27	29	31	16	15	13	1
on Mills.....	0	29	-3	5	9	5	23	19	30	2	40	4	51	26	48	28	33	27	28	22	11	15	10	18
ely.....	1	26-31	-2	5	9	5	28	19	34	2	46	9	54	27	51	19	37	27	29	31	15	15	15	18
h. elphia, Pa.....	6	26	6	16	16	5	33	19	44	2	52	1	62	23	57	20	36	27	36	27	21	30	20	1
lan.....	-3	31	-3	3	13	5	25	9-19	32	2	41	4	51	26	.....	38	27	31	31	14	15	10	18	
itund.....	-3	31	-4	3-4	13	5	26	3-19	32	2	42	24	52	26	48	20-28	40	15-26	28	22	12	15	12	1-18
riston.....	0	31	-3	5	15	5	26	19	38	2-21	46	9	57	26	50	20	40	26-27	30	22	15	15	15	18
al.....	.....	.....	.....	15	.....	5	.....	.....	37	21	46	4-9	53	26	49	20	.....	.....	.....	.....	.....	.....	.....	.....
burg.....	-1	31	-1	4	14	5	25	19	35	21	43	9	54	26	49	28	36	27	29	22	15	15	13	1
or River.....	.....	.....	.....	13	2-5	21	19	28	2	40	.....	*2-3	47	27	42	18	32	27	25	31	10	10	12	1
urton.....	-1	5-29	-4	3	10	5	22	19	28	2	42	2	52	26	50	28	34	27	27	22	11	15	12	1
o bine.....	3	26	-1	4	13	5	25	19	35	2	42	9	54	27	50	28	37	27	31	22	12	15	12	1
May C. H.....	4	26	3	4-5	14	5	27	19	38	2-21	44	9	58	26	52	20-28	39	27	32	22	15	15	14	1
Sea Coast.																								
Hook.....	0	27	4	16	15	5	31	17	41	2	50	8	60	23	57	18-19	47	26	37	27	21	14	19	1
ic.....	0	5-26	0	16	12	5	28	19	34	2	48	2-9	57	26-27	55	28	40	27	34	31	21	*14	18	1
iv Park.....	0	26	2	3	11	5	28	19	36	2	47	9	57	26	53	28	40	26	36	23-31	21	15	17	1
the City.....	5	26	3	3	15	5	29	3	42	21	48	9	61	26	56	28	45	26	35	22	20	30	18	1
ap May.....	7	26	5	5	16	5	32	3	45	2-21	52	9	63	4	55	28	46	26	40	*22	23	30	17	1

On other dates also.

Monthly and Annual Precipitation for the Year 1905, with Departures from Normal.

	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
STATIONS.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.
<b>The Highlands and Kittatinny Valley.</b>																										
Layton.....	5.50	+2.43	0.87	-1.34	3.55	-0.49	1.53	-1.54	1.56	-0.85	2.09	-2.54	3.06	-1.86	6.63	+2.28	6.23	+1.90	3.35	-0.67	1.68	-0.08	2.97	-1.91	39.02	4
Sussex.....	6.59	+3.91	0.87	-2.82	3.95	-0.06	1.73	-1.34	1.36	-2.45	2.19	-1.00	3.47	-2.68	4.11	-0.19	6.53	+2.23	2.43	-0.66	1.90	-1.28	2.78	-1.12	37.91	7
Newton.....	6.05	+2.58	1.67	-1.87	4.53	+1.21	2.33	-0.54	2.22	-2.40	3.69	+0.40	6.08	+1.75	4.44	-0.11	8.60	+5.71	4.83	+1.22	2.86	-0.51	3.17	-0.38	50.47	7
Belvidere.....	5.95	+2.97	1.49	-2.74	3.93	+0.10	2.05	-0.99	0.87	-3.67	2.78	-1.09	4.10	-1.62	3.62	-1.60	4.20	+0.48	4.15	+0.97	2.78	-0.75	2.82	-1.28	38.74	0
Charlotteburg....	7.13	+3.78	2.02	-3.12	3.15	-1.44	1.82	-2.33	1.48	-3.51	3.40	-0.12	3.66	-1.88	3.67	-1.31	6.05	+1.25	4.31	+0.27	2.38	-1.48	4.14	-0.56	43.21	-0
Dover.....	6.46	+1.95	1.75	-2.43	3.43	-0.93	2.16	-1.02	1.34	-3.24	5.18	+1.89	5.57	+0.03	3.95	-1.13	8.73	+4.71	3.35	-0.03	2.30	-1.91	3.90	+0.22	48.12	1
Chester.....	.....	.....	1.84	-2.51	3.81	-0.63	2.06	-2.03	1.39	-2.92	3.18	-0.30	5.27	-0.97	.....	.....	9.18	+4.58	.....	.....	.....	.....	.....	.....	.....	.....
Phillipsburg.....	4.64	+1.05	2.20	-1.29	3.79	+0.41	1.70	-1.36	0.95	-3.54	2.27	-1.32	2.69	-2.22	4.79	+0.15	5.69	+1.90	4.09	+0.96	2.60	-0.90	3.57	-0.26	38.98	0
<b>Average for District.</b>																										
Red Sand Stone Plain.	6.05	+2.55	1.58	-2.71	3.78	-0.22	1.92	-1.55	1.40	-3.21	3.10	-0.39	4.24	-1.19	4.46	-0.49	6.90	+2.89	3.79	+0.09	2.36	-1.39	3.34	-0.57	42.35	6
Paterson.....	5.03	+0.69	2.54	-2.09	4.22	-0.35	2.66	-0.57	1.43	-3.15	3.83	-0.52	5.17	-0.15	4.81	+0.50	6.24	+1.38	3.10	-0.47	1.98	-1.48	4.23	+0.57	45.24	5
River Vale.....	5.31	+1.55	2.37	-2.73	3.83	-0.77	2.27	-1.00	0.52	-4.28	5.52	+2.35	3.90	-0.97	4.74	+0.57	5.65	+2.04	1.48	-2.16	2.04	-2.22	2.58	-1.55	40.21	0
Englewood.....	4.17	+0.13	3.05	-2.08	4.07	-0.49	2.81	+0.05	1.06	-3.58	4.23	+0.71	6.32	-0.49	5.28	+0.60	7.58	+4.56	3.11	-0.95	1.75	-2.07	4.10	-0.57	47.53	5
Newark.....	3.67	-0.16	2.13	-1.52	3.80	-0.11	2.49	-1.09	1.25	-2.72	3.02	-0.58	6.27	+1.79	5.14	+0.39	6.27	+2.44	2.91	-0.63	2.03	-1.71	3.23	-0.52	42.21	4
South Orange....	4.24	+0.08	2.15	-1.99	4.09	+0.15	2.51	-0.78	1.21	-2.28	3.66	+0.09	4.58	-0.85	6.02	+0.97	6.68	+2.64	3.07	-0.26	2.48	-1.44	3.66	-0.01	44.35	3
New York, N. Y.	3.93	-0.11	2.79	-1.01	3.65	+0.34	2.45	-0.93	1.12	-2.06	4.18	+1.05	6.01	+1.75	5.23	+0.53	7.11	+3.39	2.67	-0.84	1.67	-1.85	3.67	+0.27	44.48	0
Bayonne.....	4.17	+0.99	2.48	-1.69	4.19	+0.03	2.72	-0.53	1.11	-3.06	4.20	+0.93	5.26	-0.28	5.60	+1.01	5.38	+2.35	2.49	-0.80	1.98	-1.79	2.99	-0.61	42.57	3
Bergen Point....	3.65	-0.59	2.66	-2.18	3.97	-1.00	2.87	-1.30	1.50	-2.98	3.78	+0.90	5.90	0.00	4.84	-0.13	6.69	+3.28	2.70	-1.96	2.06	-1.90	3.39	-1.37	44.01	9
Plainfield.....	4.23	+0.48	2.54	-1.82	3.73	-0.69	2.96	-1.06	0.98	-3.60	2.77	-0.85	8.19	+2.23	7.63	+3.26	8.49	+4.07	2.64	-1.22	2.57	-1.34	3.57	-0.30	50.30	0
Elizabeth.....	3.80	-0.53	2.58	-1.83	4.07	-0.07	2.95	-0.34	2.06	-2.03	.....	.....	5.00	-0.47	5.15	+0.89	5.55	+1.41	.....	.....	1.78	-2.18	3.27	-0.27	.....	.....
Somerville.....	4.65	+0.89	1.79	-2.20	3.96	+0.15	2.57	-0.48	0.42	-3.86	3.08	-0.80	5.03	+0.14	9.37	+5.20	6.97	+3.60	3.24	+0.16	2.68	-0.83	2.68	-1.01	46.44	0
Flemington.....	3.37	-0.23	2.05	-1.67	3.78	-0.68	2.71	-0.76	0.64	-2.83	2.67	-1.13	3.25	-2.22	8.67	+3.26	4.36	-0.06	3.21	-0.05	2.45	-0.65	3.08	-1.22	40.24	9
Lambertville....	3.60	-0.46	2.45	-0.86	3.67	-0.36	2.71	-0.60	1.13	-3.76	3.21	-1.02	2.95	-2.36	8.07	+3.79	3.98	-0.55	3.61	+0.29	2.22	-1.37	3.46	-0.44	41.06	7
New Brunswick..	3.75	-0.07	2.79	-0.85	3.93	+0.14	3.02	-0.66	1.49	-2.53	1.99	-1.81	3.69	-1.23	5.15	+0.22	4.06	+0.12	3.01	-0.44	1.98	-1.95	3.33	-0.22	38.19	7
College Farm....	3.80	+0.62	2.59	-1.46	4.02	-0.10	2.83	-0.54	1.83	-2.79	1.83	-1.26	4.23	-2.47	4.96	+0.17	4.32	+0.52	2.99	-0.60	2.01	-1.86	3.39	-0.66	38.80	.....
<b>Average for District.</b>																										
Southern Interior.	4.09	+0.25	2.46	-1.69	3.93	-0.20	2.70	-0.72	1.18	-3.12	3.43	-0.25	5.05	-0.19	6.04	+1.34	5.96	+1.93	2.87	-0.60	2.11	-1.70	3.38	-0.56	43.26	6
<b>Trenton and Vicinity.</b>																										
Trenton.....	2.68	-0.87	2.15	-1.45	3.00	-1.49	2.80	-0.81	1.72	-2.20	2.28	-1.66	2.44	-3.09	4.73	-0.44	4.65	+0.60	2.54	-1.33	2.06	-2.12	3.23	-0.20	34.28	-5
Hightstown.....	4.78	+1.58	2.34	-1.92	3.69	-0.39	2.77	-1.01	3.00	-1.64	2.53	-0.67	3.37	-2.22	4.33	+0.53	4.86	+1.25	2.73	-1.22	2.08	-2.44	3.64	+0.03	40.12	8
Imlaystown.....	3.58	-0.05	2.69	-1.33	4.62	+0.32	2.96	-0.21	1.55	-2.60	1.75	-2.00	2.87	-2.21	4.45	+0.34	5.76	+1.31	3.79	-0.36	2.20	-1.67	3.36	-0.07	38.58	9
Moorestown.....	2.87	-0.93	2.79	-1.15	4.24	+0.60	3.12	+0.45	1.31	-2.83	2.93	-0.71	2.85	-1.70	5.66	+1.30	3.81	+0.39	3.84	+0.44	1.87	-1.76	3.59	+0.10	38.88	5
Rancocas.....	3.05	-0.51	2.66	-1.22	4.57	+0.57	3.49	+0.59	1.51	-2.74	3.69	+0.31	3.63	-2.02	4.36	-0.11	4.05	+0.12	4.43	+0.66	2.03	-1.91	3.23	-0.49	40.70	6
Brown's Mills...	.....	.....	.....	.....	.....	.....	.....	.....	0.72	.....	4.72	.....	2.56	.....	4.20	.....	3.95	.....	3.21	.....	1.63	.....	3.96	.....	.....	.....
Lakewood.....	3.88	.....	3.31	.....	4.02	.....	2.90	.....	0.59	.....	4.82	.....	6.16	.....	3.85	.....	5.30	.....	2.20	.....	1.44	.....	4.22	.....	42.69	.....
Indian Mills....	3.54	.....	3.82	.....	5.06	.....	3.27	.....	1.51	.....	3.74	.....	2.20	.....	8.02	.....	4.26	.....	2.43	.....	1.96	.....	4.26	.....	44.07	.....
Beverly.....	3.26	-0.52	2.54	-1.39	4.24	0.00	3.86	+0.51	2.09	-2.47	2.24	-1.21	2.27	-2.84	7.63	+3.00	4.70	+1.27	3.84	+0.38	1.93	-1.97	3.62	+0.18	42.22	5
Philadelphia, Pa.	3.12	-0.26	2.56	-0.63	4.18	+0.92	3.58	+0.57	1.41	-1.81	1.77	-1.36	3.11	-1.06	9.57	+5.22	3.65	+0.23	4.07	+1.03	1.61	-1.56	2.98	+0.04	41.61	.....
Clayton.....	3.02	-0.22	3.85	-0.54	4.17	+0.58	3.46	-0.92	1.56	-2.16	3.63	+0.16	3.18	-2.12	.....	.....	4.66	+1.37	1.78	-2.02	1.95	-1.87	4.23	+0.30	.....	.....
Vineland.....	3.64	-0.77	3.98	-0.05	4.50	-0.21	3.84	-0.55	2.92	-1.02	4.86	+1.37	3.59	-1.03	5.55	+0.74	5.65	+1.85	1.24	-2.20	1.29	-2.36	4.28	+0.58	45.34	2
Bridgeton.....	3.28	-0.09	3.96	-0.38	4.58	-0.05	3.88	+0.21	3.76	-0.74	4.51	+0.78	4.79	-0.08	5.72	+1.49	5.55	+2.21	1.61	-2.59	1.55	-1.83	4.88	+1.20	48.07	0
Woodstown.....	3.57	.....	1.94	.....	4.72	.....	3.31	.....	2.17	.....	8.71	.....	3.26	.....	5.20	.....	5.13	.....	1.39	.....	.....	.....	.....	.....	.....	.....
Salem.....	.....	.....	.....	.....	3.55	+0.22	.....	.....	2.17	-2.24	5.84	+2.17	3.63	-0.62	3.62	-2.26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Friesburg.....	3.24	+0.26	3.45	-0.68	4.22	+0.89	3.63	+0.22	1.85	-2.09	5.67	+1.82	4.22	-0.03	4.58	+0.03	4.77	+1.45	2.00	-1.82	1.76	-1.55	3.49	+0.08	42.88	1
Canton.....	.....	.....	3.44	.....	3.74	.....	3.45	.....	3.94	.....	4.20	.....	5.16	.....	5.11	.....	3.50	.....	1.56	.....	1.33	.....	3.32	.....	.....	.....



## CO-OPERATIVE OBSERVERS.

Park, Monmouth county. . . . .	B. H. Obert	Moorestown, Burlington county. . . . .	John C. Beans
re, Hudson county. . . . .	John H. Eadie	Newark, Essex county. . . . .	Prof. G. C. Sonn
re, Warren county. . . . .	Samuel J. Hixson	New Brunswick, Middlesex county (College Farm). . . . .	Miss J. A. Voorhees
Point, Hudson county. . . . .	Dr. W. H. Mitchell	New Brunswick, Middlesex county . . . . .	Charles V. Meyers
y, Burlington county. . . . .	C. F. Richardson	Newton, Sussex county. . . . .	Brice Bowman
on, Cumberland county. . . . .	Henry A. Jorden	Oceanic, Monmouth county. . . . .	Rev. S. W. Knipe
s Mills, Burlington county. . . . .	E. W. McGann, Jr.	Paterson, Passaic county. . . . .	Heber A. Probert
, Salem county. . . . .	John H. Maskell	Phillipsburg, Warren county. . . . .	D. W. Smith
ay Court House, Cape May county. . . . .	L. T. Garretson	Plainfield, Union county. . . . .	John Neagle
teburg, Passaic county. . . . .	George S. Briggs	Pleasantville, Atlantic county. . . . .	L. Van Gilder
, Morris county. . . . .	Miss Louise DeCamp	River Vale, Bergen county. . . . .	Abram C. Holdrum
, Gloucester county. . . . .	W. T. Farley	Rancocas, Burlington county. . . . .	Spencer Haines
Morris county. . . . .	Wm. C. Harris	Sandy Hook, Monmouth county. . . . .	Arthur E. Jewell
th, Union county. . . . .	W. M. Oliver	Somerville, Somerset county. . . . .	Peter Hardcastle
ood, Bergen county. . . . .	Wm. C. Tucker, C.E.	South Orange, Essex county. . . . .	Wm. J. Chandler
gton, Hunterdon county. . . . .	H. E. Deats	Sussex, Sussex county. . . . .	Prof. W. H. Seeley
rg, Salem county. . . . .	H. C. Perry	Toms River, Ocean county. . . . .	W. C. Harris
own, Mercer county. . . . .	C. M. Norton	Trenton, Mercer county. . . . .	E. R. Cook
own, Monmouth county. . . . .	F. C. Price, M. D.	Tuckerton, Ocean county. . . . .	F. R. Austin
Mills, Burlington county. . . . .	Jas. Armstrong	Vineland, Cumberland county. . . . .	Alfred Chalmers
, Sussex county. . . . .	Warren C. Hursh	Woodbine, Cape May county. . . . .	A. R. Merrill
rtville, Hunterdon county. . . . .	Wm. R. Bowne, C. E.	Woodstown, Salem county. . . . .	M. D. Dickenson
od, Ocean county. . . . .	C. A. Roe		

## FORECAST DISPLAY STATIONS.

Park. . . . .	The Postmaster	Newark. . . . .	Prof. G. C. Sonn
on. . . . .	Henry A. Jorden	Newton. . . . .	Manager Western Union Telegraph Co.
ay Point. . . . .	U. S. Life Saving Station	Port Monmouth. . . . .	Seeley & Sons
urg. . . . .	The Dover Index	Port Norris. . . . .	J. H. Barraclough
rtville. . . . .	J. L. Suydam, M.D.	Tuckerton. . . . .	The Postmaster
ranch. . . . .	Van Horn Sons	Tuckahoe. . . . .	The Postmaster
	W. D. Martin	Wildwood. . . . .	E. F. Wright

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ANNUAL ERRATA, 1904.

Plainfield, annual mean temperature, 48.9°, should be 48.4°.

Lambertville, annual mean temperature, 49°, should be 49.7°.

Belvidere, total precipitation, April, 2.78, should be 1.78.

College Farm, total precipitation, December, 2.37, should be 2.07 and the annual amount, 54.42, should be 54.14.

Trenton, total precipitation, December, 2.34, should be 2.30 and the annual, 47.62, should be 47.58.

Tuckerton, total precipitation, December, 4.87, should be 4.77 and the annual, 36.76, should be 36.66.

Woodbine, total precipitation, March, 2.82, should be —

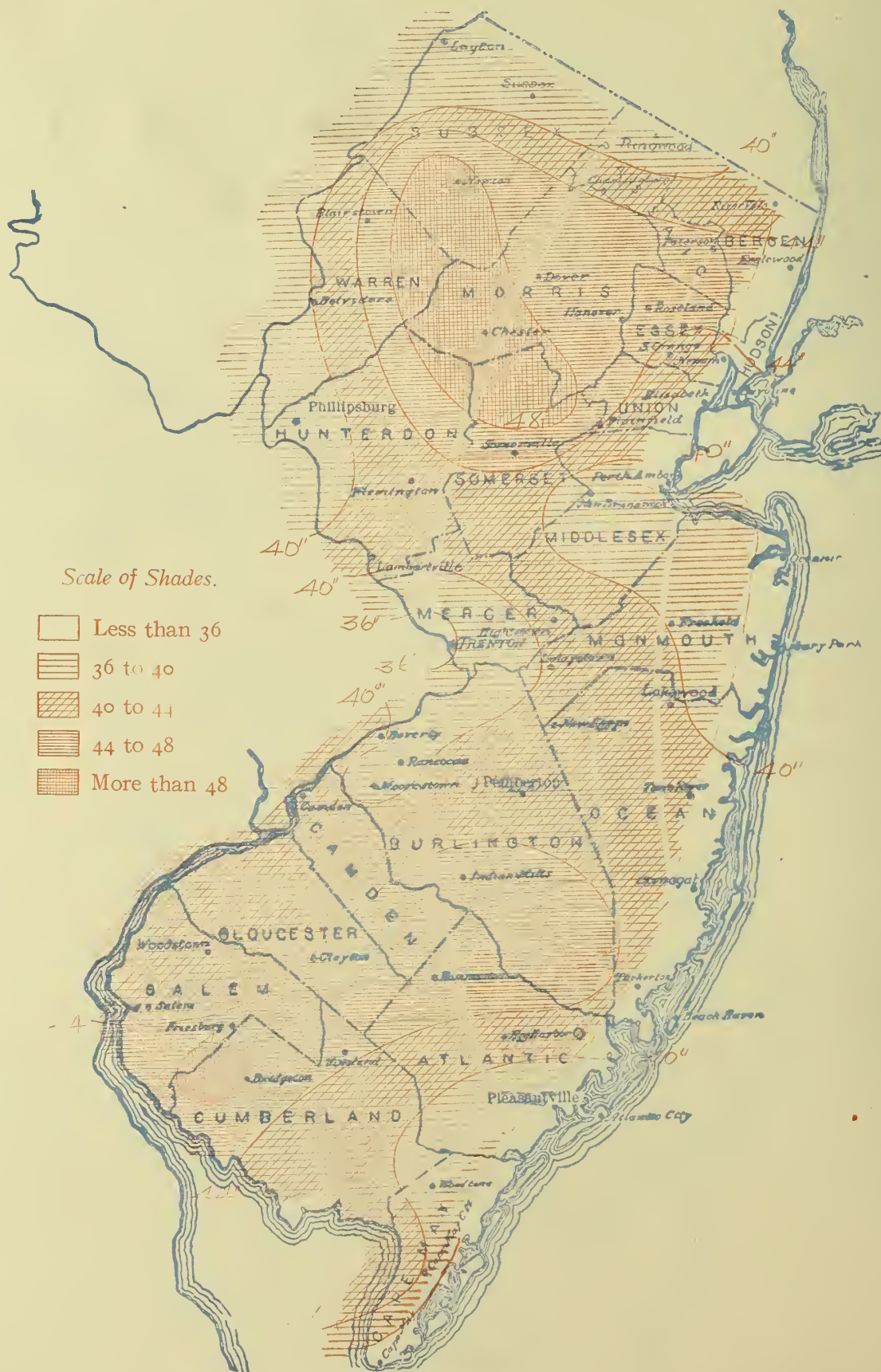
Cape May, annual precipitation, 30.20, should be 30.21.



CHART SHOWING LOCATION OF OBSERVING AND FORECAST DISPLAY STATIONS, 1905.



# TOTAL PRECIPITATION FOR THE YEAR 1905.





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U. S. DEPARTMENT OF AGRICULTURE.

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REPORT FOR JANUARY, 1906.

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NEW JERSEY SECTION  
OF THE  
CLIMATE AND CROP SERVICE  
OF THE  
WEATHER BUREAU.

IN COOPERATION WITH THE  
NEW JERSEY STATE WEATHER SERVICE.

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

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UNDER DIRECTION OF  
WILLIS L. MOORE,  
CHIEF U. S. WEATHER BUREAU,

BY

EDWARD W. McGANN,  
SECTION DIRECTOR.



ATLANTIC CITY, N. J.:  
WEATHER BUREAU OFFICE.  
FEBRUARY 19th, 1906.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATE AND CROP SERVICE

OF THE

WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION.

EDWARD W. McGANN, Section Director.

VOL. XIX.

ATLANTIC CITY, N. J.

No. 1.

## WINTER PROTECTION FOR PEACH TREES.

A recent bulletin of the Missouri Station reports tests of a number of methods of protecting peaches from winterkilling. In the locality of the station winterkilling is thought to be due to other conditions besides mere severe freezing. The most common cause is the freezing of the fruit buds after they have been stimulated into growth by periods of warm weather during winter or early spring. This fact makes it possible to employ a method of protection which can not be employed in cases where winterkilling is due to severe freezing alone. The method reported by the station is based on the fact that light colors absorb less heat from the sun than dark colors. This principle was well illustrated by suspending in the sunlight four thermometers which were coated with whitewash, three of them being colored with aniline dyes—one green, one purple, and one black. A difference of  $10^{\circ}$  to  $15^{\circ}$  was frequently observed between the white and the purple bulbs, and on one occasion in very bright sunshine the difference was  $21^{\circ}$ . It can be readily seen, then, that the green and purple twigs of peach trees would be much more apt to be started into growth by warm weather in winter than whitened ones, and consequently more liable to injury from subsequent cold weather. The method used consisted in spraying the trees with lime whitewash. Ordinary whitewash did not adhere well in rainy weather, but by using one part of skimmed milk to about five parts of water and adding one pound of salt to each bucketful of whitewash much more satisfactory results were secured. Four sprayings during fall and winter were found sufficient, the first being made at first to secure a good coating, followed by two at intervals as required. About one-half bucketful of whitewash was used per tree at each spraying. The total expense, it is estimated, need not be over ten cents a tree.

This method of protection was tested during two winters. In the winter of 1895-96, which was remarkable for its changeable temperatures, unwhitened buds grew perceptibly during warm periods before whitened ones showed any signs

of swelling. By the middle of March all unwhitened buds had made considerable more growth than whitened ones, and many of them were uninjured. The whitened trees blossomed but one day later than the others, trees of all varieties being forced into bloom almost at the same time by a sudden change to hot, dry weather. At blossoming time only 20 per cent. of the unwhitened buds were without injury, and only a few of these set fruit, while 80 per cent. of the whitened buds produced perfect flowers and more fruit set than on the unwhitened trees. —*Farmers' Bulletin, No. 78.*



## REPORTS OF CORRESPONDENTS.

Rancocas.—The month was unusually warm; several varieties of flowers were in bloom and bees were observed carrying pollen on the 21st, 22d and 23d. A maple tree was in full bloom at close of the month. SPENCER HAINES.

Oceanic.—Grass and clover are in fine growing condition; dandelions and chickweed were in bloom and fruit buds swelling at close of the month. REV. S. W. KNIPE.

Beverly.—At no time during the month has navigation on the Delaware been impeded by ice. C. F. RICHARDSON.

Sandy Hook.—The month was remarkable for its high temperature. It was noted that birds made several attempts to build their nests. A hardy pansy bed, without any protection whatever, was in bloom. ARTHUR E. JEWELL.

Lambertville.—On the 23d robins were seen and dandelions in full bloom; rose bushes were beginning to leaf and maple buds swelling towards the close of the month. WILLIAM R. BOWNE.

Phillipsburg.—Winter grain was in fine condition at close of the month. D. W. SMITH.

Friesburg.—Weather has been most favorable for outdoor work; considerable plowing has been done. H. C. PERRY.

Cape May.—Much plowing has been done; wheat and rye are in fine condition; no injury from high winds or low temperature. GEORGE L. LOVETT.

Trenton.—Wheat, rye and grass never looked better at this season of the year; ground is in fine condition to plow. E. R. COOK.

Moorestown.—Winter grain and grass continue in apparently good condition; fruit buds conspicuously but not dangerously forward; all winter plowing for potatoes has been done. JOHN C. BEANS.

Layton.—Rye continues in fine condition; a lack of snow covering has not injured the grain, so far. WARREN C. HIRSH.

Piscatawaytown.—Winter grain much improved by the warm weather, especially the late sown; peach and cherry buds swelling. W. T. WOERNER.

## METEOROLOGICAL SUMMARY FOR THE STATE FOR THE MONTH OF JANUARY, 1906.

### TEMPERATURE, DEGREES FAHRENHEIT.

The mean temperature for the State,  $36.5^{\circ}$ , is  $6.5^{\circ}$  above the normal and  $9.5^{\circ}$  above the mean for the corresponding month of 1905.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $33.4^{\circ}$ ; Red Sand Stone Plain,  $36.1^{\circ}$ ; Southern Interior,  $38.2^{\circ}$ ; Sea Coast,  $37.7^{\circ}$ .

The highest monthly mean was  $39.8^{\circ}$ , at Cape May City, Cape May County, and the lowest,  $31.0^{\circ}$ , at Layton, Sussex County.

The highest temperature recorded at any station was  $74^{\circ}$ , at Indian Mills, Burlington County, and Clayton, Gloucester County, on the 22d, and at Bridgeton, Cumberland County, on the 23d; and the lowest,  $-5^{\circ}$ , at Layton, Sussex County, on the 9th, giving a monthly range for the State of  $79^{\circ}$ .

The normal temperature for the month is  $30.0^{\circ}$ . The following table shows the mean temperature for the State for the month of January since 1887:

1887.....28.4	1897.....29.0
1888.....25.4	1898.....32.6
1889.....36.2	1899.....30.1
1890.....41.3	1900.....32.3
1891.....34.2	1901.....30.4
1892.....29.8	1902.....28.4
1893.....21.6	1903.....30.4
1894.....34.2	1904.....23.2
1895.....28.1	1905.....27.0
1896.....28.6	1906.....35.6

### PRECIPITATION, IN INCHES (INCLUDING MELTED SNOW).

The average precipitation for the month, including melted snow, for all (46) stations, was 2.85, which is 1.33 below the average for the corresponding month of 1905.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 2.59; Red Sand Stone Plain, 2.98; Southern Interior, 2.88; Sea Coast, 2.72.

The greatest amount recorded at any station was 3.86, at Flemington, Hunterdon County, and the least, 2.08, at Cape May, Cape May County. It was below the normal in all sections except portions of Hunterdon and Hudson counties, where there was a slight excess. The greatest deficiency occurred in the Highlands and Kittatinny Valley and the Red Sand Stone Plain.

The snowfall was universally light, the average for the month being 3.1, and 18.2 below the average for the corresponding month of 1905. The average depths for the various districts were: The Highlands and Kittatinny Valley, 3.3; Red Sand Stone Plain, 2.9; Southern Interior, 2.7; Sea Coast, 4.8.

The departure from the normal for the month, as determined by a comparison of current values of 31 stations having records of ten or more years, with their normals, is  $-0.87$ .

The following table shows the total precipitation for the State for the month of January since 1887:

1887.....3.87	1897.....2.8
1888.....4.77	1898.....4.2
1889.....5.68	1899.....4.0
1890.....2.29	1900.....3.8
1891.....6.57	1901.....2.5
1892.....5.15	1902.....3.1
1893.....3.04	1903.....3.9
1894.....2.34	1904.....3.0
1895.....4.66	1905.....4.1
1896.....1.66	1906.....2.8

### WIND AND WEATHER.

The prevailing direction of the wind was from the west.

The average number of days on which precipitation equalled or exceeded 0.01 inch was 11. The average number of clear days was 11; partly cloudy, 9; cloudy, 11.



### MISCELLANEOUS PHENOMENA.

#### DATES OBSERVED.

*Thunderstorms*.—16th, Cape May; 18th, College Farm.

*Distant Thunderstorm*.—16th, Oceanic, Cape May C. H. Vineland, Imlaystown.

*Lunar Corona*.—5th, Sandy Hook, Moorestown; 7th, Dove

*Lunar Halo*.—2d, Sandy Hook; 12th, Moorestown.

*Solar Halo*.—3d, 11th, 25th, 26th, Jersey City; 11th, Imlaystown; 26th, Plainfield.

*Rainbow*.—16th, Indian Mills.

*Sleet*.—3d, Plainfield; 3d, 14th, Vineland, Tuckerton, Racocas, Moorestown; 8th, Cape May C. H.; 3d, 15th, Indian Mills; 14th, 15th, Canton, Atlantic City; 13th, 14th, 20th, Englewood, Bayonne, Jersey City; 14th, 20th, Paterson.

*Fog*.—11th, 12th, 13th, 14th, 15th, 16th, 20th, 21st, 22d, 23d, 27th, 28th, 30th, 31st, Sandy Hook; 4th, 16th, 22d, 23d, 31st, Paterson, 12th, 15th, 21st, 23d, 27th, 28th, Cape May; 16th, 21st, Atlantic City; 21st, 22d, 23d, Asbury Park; 22d, 23d, Tuckerton; 13th, 14th, 20th, Englewood; 21st, 22d, 31st, Trenton; 22d, Lambertville; 22d, 23d, Bayonne; 21st, 22d, Plainfield.



### ERRATA.

December, 1905; Bergen Point, total precipitation, page published 3.92, should be 3.39, departure should be  $-1.53$ . Moorestown, total snowfall, published 2.9, should be 2.0. Toms River, total precipitation, published 4.40, should be 4.0, departure should be (plus) 0.92. Tuckerton, total precipitation, published 4.30, should be 5.30, departure should be (plus) 0.29. Pleasantville, total precipitation, published 2.79, should be 2.76. Page 8, Tuckerton, daily precipitation data should be as follows: 3d, 1.24; 9th, 0.10; 10th, 0.68; 15th ("star") 16th, 0.70; 21st, 1.30; 23d, 0.15, 29th, 1.13; total, 5.30. Cape May City, 31st, precipitation should be .01.



Climatological Data for New Jersey, January, 1906.

Stations	Counties.	Elevation, feet. Above Sea Level.	Length of record years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.					Sky.				Prevailing direction of wind.	Observers
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from normal.	Greatest in 24 hours.	Total snowfall (unmelted.)	Days with .01 or more.	Number of clear days.	Number partly cloudy days.	Number cloudy days.		
The Highlands and Kittatinny Valley.																				
Highland	Sussex	550	3	31.0	+9.0	65	24	-5	9	34	2.19	-0.88	0.95	3.0	13	19	5	7	w.	Warren C. Hursh.
Highland	Sussex	442	10	33.9	+7.6	67	23	-1	10	33	2.58	-0.10	0.83	2.5	9	16	9	6	w.	Prof. W. H. Seeley.
Highland	Sussex	678	25	33.7	+8.0	66	23	-3	10	42	2.74	-0.73	0.79	4.0	11	11	8	12	w.	Brice Bowman
Highland	Warren	289	14	34.8	+8.2	68	23	3	11	34	2.31	-0.67	0.82	3.0	11	15	5	11	...	Samuel J. Hixson.
Highland	Passaic	719	12	33.3	+6.1	67	20	2	10	37	2.65	-0.70	1.10	2.0	10	10	15	6	sw.	G. S. Briggs.
Highland	Morris	575	19	32.5	+6.1	64	23	5	10	35	2.90	-1.61	1.18	5.0	12	5	12	14	...	William C. Harris.
Highland	Morris	860	12	32.5	+6.1	64	23	5	10	35	2.90	-1.61	1.18	5.0	12	5	12	14	...	Miss Louise DeCamp.
Highland	Warren	196	1	34.8	+7.9	67	23	7	9-11	28	2.78	-0.81	1.16	3.6	13	12	5	14	w.	D. W. Smith.
Average for District.				33.4	+6.9						2.59	-0.91		3.3	11	13	8	10	w.	
The Red Sand Stone Plain.																				
Highland	Passaic	110	29	36.8	+8.2	65	23	12	9-11	28	2.67	-1.67	1.23	2.8	9	6	20	5	nw.	H. A. Probert.
Highland	Bergen	70	13	34.0	+5.8	66	23	-2	11	37	2.04	-1.72	0.94	4.0	7	13	6	12	nw.	A. C. Holdrum.
Highland	Bergen	135	15	34.1	+6.0	61	23	6	9-10	25	3.02	-1.02	1.70	4.5	13	11	6	14	sw.	William C. Tucker, C.E.
Highland	Essex	140	13	36.1	+7.0	66	23	9	9	26	2.36	-1.47	1.60	2.3	12	9	10	12	nw.	Prof. G. C. Sonn.
Highland	Essex	200	34	37.1	+8.4	6	23	8	10	24	2.68	-1.48	1.33	2.5	9	7	9	15	ne.	W. J. Chandler, M.D.
Highland	New York	314	35	37.3	+6.4	63	23	13	10	20	2.98	-1.06	1.63	3.0	13	8	9	14	w.	U. S. Weather Bureau.
Highland	Hudson	15	...	37.2	.....	61	4-23	11	9-10	24	3.36	-1.37	1.37	3.3	13	9	12	10	w.	Samuel K. Pearson, Jr.
Highland	Hudson	50	13	36.4	+6.5	67	22	11	9-10	28	3.28	+0.10	1.42	3.7	12	12	4	15	nw.	John H. Eadie.
Highland	Hudson	37	7	35.8	+4.0	67	23	9	9-10	31	3.59	-0.55	1.96	4.5	12	5	19	7	nw.	Dr. W. H. Mitchell.
Highland	Union	100	13	35.6	+6.6	70	23	5	10	30	2.77	-0.98	1.54	2.8	11	9	7	15	sw.	John Neagle.
Highland	Union	33	24	36.8	+7.0	67	23	10	9	29	2.90	-1.43	1.70	1.5	11	15	6	10	w.	M. Oliver.
Highland	Somerset	76	20	35.0	+7.1	66	23-24	3	10	32	2.90	-0.86	1.33	2.5	13	7	8	16	nw.	Peter Hardcastle.
Highland	Hunterdon	187	7	35.5	+6.0	70	23	12	10	31	3.86	+0.26	1.36	2.0	11	15	4	12	e.	H. E. Deats.
Highland	Hunterdon	95	16	36.7	+7.0	70	22-23	6	10	30	3.00	-1.06	1.30	2.5	10	14	9	8	s.	William R. Bowne.
Highland	Middlesex	61	46	37.2	+6.8	69	23	7	10	30	3.17	-0.65	1.48	3.3	12	7	14	10	nw.	Charles V. Meyers.
Highland	Middlesex	100	8	35.9	+5.7	71	23	2	10	32	3.04	-0.14	1.57	0.7	11	14	12	5	w.	Miss J. A. Voorhees.
Average for District.				36.1	+7.0						2.98	-0.91		2.9	11	10	9	12	nw.	
The Southern Interior.																				
Highland	Mercer	60	28	39.8	.....	72	22-23	10	9-10	28	3.59	+0.04	1.49	0.3	11	5	16	10	sw.	E. R. Cook.
Highland	Mercer	85	12	...	.....	72	23	6	10	37	...	...	...	...	...	...	...	...	...	C. M. Norton.
Highland	Monmouth	106	17	41.0	+9.3	72	23	6	10	37	2.20	-1.43	0.96	3.5	11	11	13	7	sw.	F. C. Price, M.D.
Highland	Burlington	71	30	37.2	+7.0	72	23	5	10	31	2.85	-0.95	1.07	2.3	12	7	8	16	w.	John C. Beaus.
Highland	Burlington	68	15	...	.....	73	22	2	10	40	2.88	-0.68	1.12	1.8	11	8	3	20	nw.	Spencer Haines.
Highland	Burlington	71	...	37.2	.....	73	22	2	10	40	2.88	-0.68	1.12	1.8	11	8	3	20	nw.	Edw. W. McGann, Jr.
Highland	Ocean	54	3	37.6	.....	70	22	5	10	31	3.03	.....	0.92	5.0	10	14	10	7	nw.	C. A. Roe.
Highland	Burlington	76	3	38.0	.....	74	22	0	10	38	3.13	.....	0.70	3.2	11	11	7	13	sw.	James Armstrong.
Highland	Philadelphia	30	19	37.3	+6.4	72	22-23	4	10	32	3.34	-0.44	0.95	0.6	13	9	12	10	w.	C. F. Richardson.
Highland	Philadelphia	...	35	39.4	+7.2	71	23	15	9	23	3.16	-0.11	1.46	2.4	15	7	8	16	nw.	U. S. Weather Bureau.
Highland	Gloucester	126	7	38.4	+6.6	74	22	5	10	34	3.22	-0.02	0.68	2.0	12	14	5	12	ne.	Wm. T. Farley.
Highland	Cumberland	118	32	38.0	+6.4	71	22	1	10	36	2.26	-2.15	0.85	2.5	13	11	10	10	ne.	Alfred Chalmers.
Highland	Cumberland	30	17	39.2	+4.9	74	23	6	10	32	3.40	+0.03	1.10	2.5	11	16	1	14	ne.	Henry A. Jorden.
Highland	Salem	16	3	...	.....	73	22	...	...	...	...	...	...	...	...	...	...	...	...	W. D. Dickinson.
Highland	Salem	16	8	...	.....	73	22	...	...	...	...	...	...	...	...	...	...	...	...	H. C. Perry.
Highland	Salem	143	11	38.2	+4.4	70	21-22	4	10	34	2.83	-0.15	0.99	1.5	11	8	14	9	s.	J. H. Maskell.
Highland	Salem	24	2	...	.....	73	22	...	...	...	...	...	...	...	...	...	...	...	...	S. R. Harris.
Highland	Ocean	33	11	37.5	+6.9	73	22	2	10	36	2.48	-1.04	0.91	7.0	10	17	3	11	nw.	F. R. Austin.
Highland	Ocean	23	7	36.3	+5.3	63	22	-2	10	40	2.90	-0.22	0.71	4.0	9	9	11	11	nw.	L. Van Gilder.
Highland	Atlantic	26	3	...	.....	72	21	...	...	...	...	...	...	...	...	...	...	...	...	Arthur R. Merrill.
Highland	Cape May	43	12	38.8	+7.0	67	21	3	10	33	3.13	+0.02	0.94	?	11	21	2	8	w.	L. T. Garretson.
Highland	Cape May	19	16	39.8	+4.7	66	21	13	9	23	2.72	-0.64	0.60	3.0	10	8	9	14	nw.	
Average for District.				38.2	+6.7						2.88	-0.74		3.7	11	11	8	12	nw.	
The Sea Coast.																				
Highland	Monmouth	14	1	36.7	.....	65	23	13	9	25	3.29	.....	1.26	5.0	12	9	10	12	w.	Arthur E. Jewell.
Highland	Monmouth	16	17	36.9	+4.3	64	21-23	9	10	29	2.78	-1.41	0.98	6.2	12	12	11	8	w.	Rev. S. W. Knipe.
Highland	Monmouth	22	15	37.4	+5.2	60	21	8	10	24	2.98	-0.61	1.05	6.7	12	10	5	16	w.	B. H. Obert.
Highland	Atlantic	53	30	38.4	+5.9	53	31	13	10	23	2.48	-0.32	0.73	4.1	13	7	5	19	ne.	U. S. Weather Bureau.
Highland	Cape May	11	10	39.1	+4.7	58	4	15	10	21	2.08	-1.77	0.48	2.0	13	7	10	14	s.	U. S. Weather Bureau.
Average for District.				37.7	+3.9						2.72	-1.00		4.8	12	9	8	14	...	

Letters of the alphabet denote the number of days missing from the record.  
\* Not considered in means or summary; received too late. \* Thermometers other than standard. † Trace. ‡ Also on other dates.  
All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records  
stations that have ten or more years of observation.

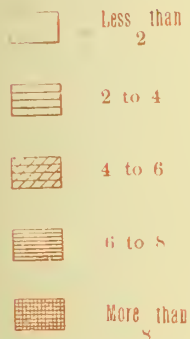


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# TOTAL PRECIPITATION, JANUARY, 1906.

Scale of Shades Inches



## Daily Precipitation for New Jersey, January, 1906.

Stations.	Day of month.																																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
The Highlands & Kittatinny Val.																																		
Layton.....			.05	.90		+		.20	.20			.40		.08	.05	.05		.10	.06				.02	.04								.04		
Sussex.....			.10	.83		+		.20	.20			.26			.25			.20	.11					.43									.04	
Newton.....			.17	.62	†	†		.25	.10			.37		.18	.06	.08		.32	.05					.54				†					.04	
Belvidere.....			.22	.82				*	.28			.32			.11	.13		*	.10					.30									.03	
Charlotteburg.....			*	1.10				.16				.30		*	*	.54		.11	.15					.29										
Chester.....																																		
Dover.....			*	1.18				*	.40			.35			*	.57		*	.13	.02			*	.25										
Phillipsburg.....			.16	1.00				.17	.09			.28		.08	.14	.14		.05		†			.01	.55				.09					.02	
Pompton Plains.....																																		
The Red Sand Stone Plain.																																		
Paterson.....			.10	1.23				.13	.17			.23		.36	†	.23		.06		†				.16										
Mahwah.....																																		
River Vale.....			*	.94				.30				.28		.10	†	.42																		
Little Falls.....																																		
Englewood.....			1.09	.61				.26	.03			.09		.42	.09	.14		.07		.03	†		.13	.02										
Chatham.....																																		
Newark.....			1.00	.60		†		.06	†			.07	.16	.04	.05	.15		.09		.01			.11	.02										
South Orange.....			*	1.33				.30				.30		.32		.32		.09		†			.12	.12										
New York City.....			1.00	.63		†		.21	.01			.08	†	.59	.07	.11		.02		.01	†		.12	.05										
Jersey City.....			.38	1.37		†		.17	.13			.15	†	.61	.03	.20		.05	†	.01			.05	.17										
Bayonne.....			.28	1.42		†		.10	.17			.16	†	.66	.05	.14		.06		.02		†	†	.20										
Bergen Point.....			.34	1.62		†		.12	.15			.17		.62	.06	.17		.07	†	.01		†	.21											
Plainfield.....			.60	.94		†		.10	.14			.23		.38	.07	.18		.05	.01			†	.07											
Elizabeth.....			*	1.70				.15				.25	*	*	.48		.10		.05		.05			.17										
Somerville.....			.15	1.33				.05	.10			.28		.32	.07	.24		.08					.18											
Flemington.....			.03	1.36				.10	.10			.44		.48	.10	.15		.73	†	†	†	†	.20											
Lambertville.....			.25	1.05				*	.36			.31		.33	.05	.14		.05				†	†											
New Brunswick.....			.17	1.48		.02		.06	.22			.18		.45	.05	.16		.08		†		†	.17											
College Farm.....			.14	1.57		†		.05	.07			.16		.45	.06	.17		.06						.20										
The Southern Interior.																																		
Trenton.....			.41	1.08		†		*	.30			.19	.38	.48	†	.18		.12		†				.23										
Hightstown.....								*	.20			.04	*	.58		.02		.02																
Imlaystown.....			*	.96				*	.20			.04	*	.58		.02		.02																
Moorestown.....			.37	.76		†		.02	.21			.19	.08	.51	.08	.16		.09		†														
Rancocas.....			.75	.37				.17	.17			.25	.20	.35	.10	.18		.10			†													
Browns Mills.....			.27	.54				.02	.13			.05		.58	.07	.20		.07	.01															
Lakewood.....			.10	.76		†		.09	.18			.02		.92		.17		.25																
Indian Mills.....			.34	.54				†	.24			.20	*	.70	.17	.20		.12																
Beverly.....			.60	.95		†		.08	.14			.14	.13	.48	.07	.19		.09		†														
Philadelphia, Pa.....			1.46	.14		†		.23	.01		.01	.11	.25	.37	.01	.11		.08		†														
Clayton.....			*	1.57				*	.35			.12	*	.68		.21		.13		.02														
Vineland.....			.16	.09	.03			†	.21				.04	.47	.09	.07		.11					*	.33										
Bridgeton.....			.50	.60					.25			.13	.58	.28		.24		.11																
Woodstown.....																																		
Salem.....								†	.15			.18	*	.50	*	.30		.10					*	.29										
Friesburg.....			*	.99				*	.05			.21		.50		.34		.06																
Canton.....			*	.78									.43		*		.17		.13		†													
Toms River.....			*	.91				.20																										
Tuckerton.....			.15	.71				*	.30				.18	.55		.22		.23																
Pleasantville.....																																		
Woodbine.....			*	.90				*	.30				*	*	.94		.25		.55															
Cape May C. H.....			.60	.12				†	.33	.18		†	†	.54	.15	.18		.19																
The Sea Coast.																																		
Sandy Hook.....			.32	.94				.12	.20			.08		.74	.12	.20		.10		†			.03	.24										
Oceanic.....			.08	.90		†		.04	.12				.08	.74	.03	.22		.08	.04	†			.32											
Asbury Park.....			.05	1.00		†		.05	.27			*	.04	.78	.03	.16		.05		†			*	.47										
Atlantic City.....			.44	.06				.16	.16			†	.25	.57	.01	.23		.14					.16	.13										
Cape May City.....			.48	.02				.13	.10			.01	.26	.24	.05	.26		.10					.16											

\* Precipitation included in that of following day.

† Trace, when precipitation is less than 0.01 inch.



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U. S. DEPARTMENT OF AGRICULTURE.

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REPORT FOR FEBRUARY, 1906.

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NEW JERSEY SECTION  
OF THE  
CLIMATOLOGICAL SERVICE  
OF THE  
WEATHER BUREAU.

IN COOPERATION WITH THE  
NEW JERSEY STATE WEATHER SERVICE.

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

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UNDER DIRECTION OF  
WILLIS L. MOORE,  
CHIEF U. S. WEATHER BUREAU,

BY  
LEVI A. JUDKINS,

SECTION DIRECTOR.



ATLANTIC CITY, N. J.  
WEATHER BUREAU OFFICE.  
MARCH 21, 1906.

MONTHLY MEAN ISOTHERMS AND PREVAILING DIRECTION OF WIND, FEBRUARY, 1906.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XIX. ATLANTIC CITY, N. J., FEBRUARY, 1906. No. 2.

## GENERAL SUMMARY.

A large part of the month was free from severe weather. The thermal element was greatly in contrast with that of the corresponding month of 1905, when the mean temperature was  $7.2^{\circ}$  below normal. For the current month the mean temperature was about normal. The coldest weather of the month occurred during the first ten to twelve days, although in most sections the period extending from the 15th to the 17th, inclusive, was moderately cold. Minimum temperatures of  $10^{\circ}$  or below (occurring principally on the 3d, 6th and 11th), were mostly confined to the Highlands and Kittatinny Valley district. Over the southern half of the State zero temperatures were absent, although on the 3d and 6th the minima ranged from  $4^{\circ}$  to  $9^{\circ}$ . The maximum temperature of the month at the individual stations was registered generally on the 21st and 24th, and ranged from  $51^{\circ}$  to  $55^{\circ}$  in the extreme northern, to slightly above  $60^{\circ}$  in the interior of the southern half of the State. During the second and third decades there were numerous mild, spring-like days, but at the close of the month rough, windy weather prevailed.

The average precipitation was decidedly below normal, and was practically coincident with the average for the corresponding month of 1905. For the current February the total monthly precipitation ranged from 1.77 inches to 3.85 inches. The district departures below normal were greatest for the Red Sand Stone Plain and the Southern Interior, being 1.72 inches and 1.30 inches, respectively. Along the eastern coast the total precipitation for the month was variable, ranging from 1.77 inches, at Asbury Park, to 3.66 inches, at Atlantic City. Over other districts the distribution of monthly precipitation was more uniform. The general storm periods of the month were as follows: 8th-9th, 14th-15th, 21st-22d, and the 25th. The storm of the 8th-9th was in the form of snow, turning to sleet and rain, over a large part of the State. In the northern counties this storm deposited from 5 to 10 inches of snow which, however, rapidly disappeared.

On the 28th a heavy, northwest gale prevailed. At Jersey City the wind attained a velocity of 54 miles per hour, and a velocity of 60 miles per hour was recorded at Newark.

The generally mild, open weather of the month was favorable for midwinter farm work, but it materially interfered with the work of securing the usual ice crop. During the first part

of the month ponds were frozen to a depth of about 6 inches, but the Delaware River remained in a navigable condition throughout the month.

## TEMPERATURE.

The monthly mean,  $30.9^{\circ}$ , was  $0.3^{\circ}$  above normal and  $7.5^{\circ}$  above the mean for the corresponding month of 1905.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $26.7^{\circ}$ ; Red Sand Stone Plain,  $30.6^{\circ}$ ; Southern Interior,  $33.1^{\circ}$ ; Sea Coast,  $32.3^{\circ}$ .

The highest monthly mean was  $34.3^{\circ}$ , at Bridgeton, and the lowest,  $24.4^{\circ}$ , at Layton.

The absolute maximum was  $64^{\circ}$ , at Clayton, on the 24th, and the absolute minimum,  $-12^{\circ}$ , at Layton, on the 11th.

The absolute range for the State was  $76^{\circ}$ .

The greatest local monthly range was  $66^{\circ}$ , at Layton, and the least,  $41^{\circ}$ , at Cape May City.

The greatest daily range was  $42^{\circ}$ , at Layton and River Vale, on the 17th.

## PRECIPITATION.

The average (including melted snow) was 2.58 inches, or 1.35 inches below normal, and .05 of an inch above the average for the corresponding month of 1905.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 2.83 inches; Red Sand Stone Plain, 2.36 inches; Southern Interior, 2.56 inches; Sea Coast, 2.55 inches.

The greatest monthly amount was 3.85 inches, at Woodbine, and the least, 1.77 inches, at Asbury Park.

The greatest amount in any 24 consecutive hours was 2.15 inches, at Woodbine, on the 8th-9th.

The average number of days with a measurable amount was 7.

The average snowfall was 5.4 inches, the average amounts for the various districts being as follows: The Highlands and Kittatinny Valley, 8.8 inches; Red Sand Stone Plain, 5.6 inches; Southern Interior, 2.9 inches; Sea Coast, 4.3 inches.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 14; partly cloudy, 7; cloudy, 7. At Atlantic City the amount of sunshine was 59 per cent of the possible amount.

## WIND.

The prevailing wind direction was northwest. The maximum velocity (for five minutes) was 60 miles per hour, from the northwest, at Newark, on the 28th.

## MISCELLANEOUS PHENOMENA.

*Auroras*.—Moorestown, Woodbine, 24th.

*Fog*.—Bergen Point, 12th, 18th; Beverly, 20th; Cape May, 12th, 21st; Oceanic, 18th; Phillipsburg, 20th, 21st; Sandy Hook, 17th, 18th, 21st, 25th; Somerville, 14th; Trenton, 14th, 20th.

*Halos, lunar*.—Indian Mills, 12th; Jersey City, 4th; Moorestown, 4th; Phillipsburg, 12th; Plainfield, 3d, 4th; Sandy Hook, 4th.

*Halos, solar*.—Bergen Point, 27th; Indian Mills, 8th; Jersey

City, 27th; Moorestown, 1st; Oceanic, 8th, 13th; Vineland, 12th.

*Lightning*.—Belvidere, 14th.

*Sleet*.—Asbury Park, 9th; Bayonne, 9th; Bergen Point, 9th, 15th; Canton, 5th; Charlotteburg, 15th; Clayton, 5th; College Farm, 9th; Jersey City, 9th; Lambertville, 9th; Moorestown, 9th; Phillipsburg, 9th; Plainfield, 9th, 15th; Rancocas, 9th; Sandy Hook, 9th; Somerville, 9th, 15th, 19th; Trenton, 9th.

*Thunderstorms*.—Canton, Clayton, 15th; Cape May, Cape May C. H., Vineland, Woodbine, 25th.

#### OBSERVERS' REMARKS.

Beverly.—The ground was free from snow except from the 8th to the 11th, inclusive. The Delaware River at this point has been open for navigation during the entire winter season. A small ice-crop has been gathered from ponds, but none from the river.

C. F. RICHARDSON.

Flemington.—Ponds in this vicinity were frozen to a depth of about 5 inches on the 6th and 7th.

H. E. DEATS.

Jersey City.—The first ice of the season in the Hudson River at this city appeared on the 6th.

S. K. PEARSON, JR.

Moorestown.—A well defined, but brief, auroral display was seen late at night, on the 24th.

JOHN C. BEANS.

Sandy Hook.—The first appearance of ice in Sandy Hook Bay this winter was on the 3d.

ARTHUR E. JEWELL.

#### SNOW FROM CLEAR SKY.

At Atlantic City, on the 6th, the spectacle of snow from a clear sky was witnessed. The fall, in the form of minute flakes, was continuous from 10.45 a. m. to 3.30 p. m., the sky during the period being entirely clear. Quite heavy flurries occurred at intervals and, except for the small size of the flakes, the phenomenon had every appearance of an ordinary snow-storm. Condensation appeared to take place at a low altitude—probably not more than 100 feet above the ground. The wind was from the northeast, the temperature ranged from 15° to 22°, and the relative humidity averaged about 70 per cent. With the formation of strato-cumulus clouds, about 3.30 p. m., the snow ceased.

#### COLD WAVES.

The first well-defined cold wave of the winter of 1905-6 advanced from Manitoba to the Atlantic Coast States from the 1st to the 3d of February, with temperature 30° below zero at Winnipeg, Man., on the 1st, and 24° below zero at Sault Ste. Marie, Mich., on the 2d. On the morning of the 3d the temperature was below zero in the interior of New York and New England; the line of 10° was traced through the District of Columbia and southwestern Virginia, and the line of freezing temperature through northwestern Florida. From the 3d to the 6th a cold wave advanced from the Rocky Mountains over the central valleys and the Middle Atlantic and New England States, carrying the line of zero temperature to Kansas, the Ohio River, and the interior of New York and New England. From the 13th to 15th a cold wave swept from British America to the Atlantic and Gulf coasts, with zero temperature in the States of the lower Missouri Valley on the

morning of the 14th, and a fall in temperature of 20° to 30° in the interior of the Atlantic and east Gulf States by the morning of the 15th. A moderate cold wave overspread the central valleys and the eastern and southeastern States during the 26th, 27th, and 28th, attended by heavy snow from the middle Mississippi Valley over a great part of the Ohio Valley and portions of the Middle Atlantic States, and by frost to the middle and east Gulf coasts and northern Florida.—*National Monthly Weather Bulletin for February, 1906.*

#### SNOW.

At the close of the month the area covered with snow was generally confined to the extreme northern districts, although portions of the central Mississippi and Ohio valleys and Middle Atlantic States were covered to considerable depths. The amount of snow on the ground in northern New England was much less than usual at this time of the season.—*National Monthly Weather Bulletin for February, 1906.*

#### EXECUTIVE NOTES.

A change in coöperative observer at Brown's Mills has occurred, and it is expected that observations at that station will be resumed in the near future.

Mr. Edward W. McGann, former Section Director, Weather Bureau, and Director of the New Jersey State Weather Service, is now in charge of the local office of the Weather Bureau at Charles City, Iowa.

#### TITLE OF PUBLICATION CHANGED.

Beginning with the present issue, this publication will be known as the Monthly Report of the New Jersey Section of the Climatological Service of the Weather Bureau. It succeeds the Climate and Crop Service series of monthly reports heretofore published in this form. The crop feature is omitted but in other respects the character of the publication is unchanged.

#### COMPARATIVE DATA FOR FEBRUARY.

YEAR	TEMPERATURE			AVERAGE PRECIPITATION
	MEAN	HIGHEST	LOWEST	
1887	33.9	69	4	5.24
1888	30.6	60	-5	3.53
1889	27.7	57	-3	2.49
1890	39.9	76	14	4.17
1891	38.0	71	1	5.11
1892	33.6	58	7	1.63
1893	30.1	63	-1	5.73
1894	29.7	62	-11	4.42
1895	23.6	57	-12	1.28
1896	32.1	62	-12	6.77
1897	32.5	59	-6	3.61
1898	32.7	65	-15	3.48
1899	25.8	60	-17	6.06
1900	31.0	69	-6	5.30
1901	25.4	52	-6	0.94
1902	27.4	62	-7	6.24
1903	33.7	70	-16	4.87
1904	24.8	65	-16	2.45
1905	23.4	57	-18	2.53
1906	30.9	64	-12	2.58



## Climatological Data for New Jersey, February, 1906.

Stations.	Counties.	Elevation, feet, above sea level.	Length of record years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.				Prevailing direction of wind.	Observers
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from normal.	Greatest in 24 hours.	Total snowfall (unmelted.)	Days with .01 or more.	Number of clear days.	Number partly cloudy days.	Number cloudy days.			
The Highlands and Kittatinny Valley.																					
Newton	Sussex	550	4	24.4	...	54	24	-12	11	42	3.08	.....	1.00	9.0	5	17	3	8	sw.	Warren C. Harsh.	
Newton	Sussex	442	11	26.9	+1.1	55	25	-4	6	37	2.75	-0.94	1.00	10.0	4	18	7	3	w.	Prof. W. H. Seeley.	
Newton	Sussex	678	26	26.4	...	56	24	-1	6-11	40	2.83	-0.71	1.44	9.2	8	18	4	6	nw.	Brice Bowman.	
Wyldere	Warren	289	15	27.8	+0.9	55	24	-1	6	31	3.54	-0.69	1.65	8.5	5	17	2	9	.....	Samuel J. Hixson.	
Charlotteburg	Passaic	719	13	25.9	+0.1	54	24	-5	6	39	2.17	-2.97	0.80	8.0	6	16	7	5	n.	G. S. Briggs.	
Ver	Morris	575	20	26.0	-1.3	51	24	-1	6	30	2.25	-1.93	0.80	8.0	4	8	8	12	.....	William C. Harris.	
Phillipsburg	Warren	196	4	25.8	+0.6	55	24	-1	6	30	3.03	-0.46	1.36	7.6	8	13	7	8	ne.	D. W. Smith.	
Newton Plains	Morris	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.42	.....	1.08	9.0	5	.....	.....	.....	.....	River & Flood Service.	
Average for District.				26.7	+0.7						2.83	-1.15		8.8							
The Red Sand Stone Plain.																					
erson	Passaic	110	30	32.0	+1.5	55	20-24	4	6	28	3.49	-1.14	1.38	8.2	7	14	10	4	nw.	H. A. Probert.	
Whah	Bergen	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.28	.....	1.00	5.0	4	.....	.....	.....	.....	River & Flood Service.	
er Vale.....(A)	Bergen	70	14	27.0	-0.4	53	24	-7	11	42	1.90	-3.20	1.00	10.0	4	18	4	6	nw.	A. C. Holdrum.	
le Falls	Passaic	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.12	.....	1.21	8.0	5	.....	.....	.....	.....	River & Flood Service.	
glewood	Bergen	135	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	William C. Tucker.	
athan	Morris	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.02	.....	0.80	6.5	4	.....	.....	.....	.....	River & Flood Service.	
ark	Essex	140	14	31.1	+0.5	5	24	1	6	35	1.91	-1.74	0.74	4.9	5	15	8	5	nw.	Prof. G. C. Sonn.	
th Orange	Essex	200	35	29.4	-0.4	52	21	1	6	29	2.16	-1.98	0.74	7.5	5	16	4	8	ne.	W. J. Chandler, M.D.	
y York City	New York	314	36	31.2	+0.4	59	21	5	6	30	2.57	-1.21	1.22	5.0	6	14	3	11	nw.	U. S. Weather Bureau.	
sey City	Hudson	15	.....	31.4	.....	55	21	4	6	27	2.83	.....	1.47	6.6	7	14	6	8	n.	Samuel K. Pearson, Jr.	
onne	Hudson	50	14	31.1	+1.3	61	21	3	6	25	2.10	-2.07	0.65	4.5	6	15	3	10	nw.	John H. Eadie.	
gen Point	Hudson	37	8	30.6	+1.0	61	21	2	6	31	2.10	-2.74	0.82	3.5	8	12	8	8	nw.	Dr. W. H. Mitchell.	
field	Union	100	14	29.6	+0.7	54	24	1	6	29	2.37	-1.99	1.07	5.6	6	14	6	8	nw.	John Neagle.	
abeth	Union	33	25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W. M. Oliver.	
erville	Somerset	76	21	30.3	+0.2	55	24	3	6	32	2.33	-1.66	0.95	4.0	7	14	5	9	nw.	Peter Hardcastle.	
nington	Hunterdon	187	8	30.6	+3.7	59	24	2	6	34	2.12	-1.60	0.78	4.0	8	16	5	7	n.	H. E. Deats.	
bertville	Hunterdon	95	17	31.4	+0.5	58	24	3	6	33	2.62	-0.69	1.28	5.0	5	16	6	6	nw.	William R. Bowne.	
y Brunswick	Middlesex	61	47	32.2	+0.1	60	24	3	6	34	2.12	-1.52	1.01	4.0	6	14	9	5	nw.	Charles V. Meyers.	
ege Farm	Middlesex	100	9	30.4	+1.5	60	21	-1	6	34	2.04	-2.01	0.82	3.3	5	16	8	4	n.	Miss J. A. Voorhees.	
Average for District.				30.6	+0.4						2.36	-1.72		5.6							
The Southern Interior.																					
iton	Mercer	60	29	33.4	.....	60	21-24	6	3-6	34	2.26	-1.34	0.82	0.3	6	11	12	5	sw.	E. R. Cook.	
ystown	Monmouth	106	18	.....	.....	.....	.....	.....	.....	.....	1.91	-2.05	0.68	3.0	6	12	12	4	n.	F. C. Price, M.D.	
restown	Burlington	71	31	32.2	+0.3	61	21	4	6	34	2.06	-1.88	1.06	5.2	7	14	5	9	nw.	John C. Beams.	
cocas	Burlington	68	16	.....	.....	.....	.....	.....	.....	.....	2.06	-1.82	0.87	3.6	7	14	3	11	nw.	Spencer Haines.	
in's Mills	Burlington	71	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. J. Miller.	
ewood	Ocean	54	4	32.4	.....	62	21	4	6	33	2.14	.....	1.06	0.5	7	18	6	4	nw.	C. A. Roe.	
an Mills	Burlington	76	4	33.3	.....	62	21-24	5	3-6	40	2.20	.....	1.04	3.5	10	16	5	7	nw.	James Armstrong.	
erly	Burlington	30	20	32.5	+0.7	61	24	4	6	36	2.48	-1.45	1.34	3.2	7	13	12	3	nw.	C. F. Richardson.	
adelphia, Pa.	Philadelphia	.....	36	33.6	+0.3	61	21	8	6	38	2.47	-0.87	1.15	6.2	8	12	7	9	n.	U. S. Weather Bureau.	
ton	Gloucester	126	8	33.2	+3.5	64	24	5	6	39	2.46	-1.93	1.43	0.5	8	15	7	6	nw.	Wm. T. Farley.	
land	Cumberland	118	33	33.1	-0.2	62	24	5	3-6	37	2.62	-1.41	1.38	1.2	10	13	11	4	nw.	Alfred Chalmers.	
geton	Cumberland	30	18	31.3	-0.6	62	21	7	6	35	3.39	-0.95	2.00	4.0	8	16	3	9	nw.	Henry A. Jorden.	
sburg	Salem	143	12	32.8	+3.3	60	21	6	6	33	2.58	-1.55	1.52	3.0	9	13	10	5	n.	H. C. Perry.	
ton	Salem	24	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Maskell.	
s River	Ocean	33	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	S. R. Harris.	
erton	Ocean	23	8	31.8	+1.9	54	25	2	3	27	3.63	-0.12	1.24	1.5	7	12	7	9	nw.	F. R. Austin.	
santville	Atlantic	26	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Van Gilder.	
dbine	Cape May	43	13	33.1	+2.1	58	15-21	5	3	31	3.85	-0.46	2.15	2.0	9	18	4	6	nw.	Arthur R. Merrill.	
May C. H.	Cape May	19	17	33.8	-0.3	55	20-22	8	6	29	3.39	-0.53	1.30	4.3	9	12	10	6	nw.	L. T. Garretson.	
Average for District.				33.1	+0.7						2.56	-1.30		2.9							
The Sea Coast.																					
y Hook	Monmouth	14	2	31.4	.....	60	21	7	3	30	2.06	.....	1.14	5.0	7	12	4	12	nw.	Arthur E. Jewell.	
nic	Monmouth	16	18	32.2	-0.2	63	21	5	3	30	1.95	-2.31	0.98	6.0	7	15	8	5	n.	Rev. S. W. Knipe.	
ry Park.....(A)	Monmouth	22	16	31.7	-0.1	51	22	5	3	26	1.77	-2.40	0.94	2.0	8	15	3	10	w.	B. H. Obert.	
tic City	Atlantic	53	31	32.7	-0.2	52	19	8	6	26	3.66	+0.31	1.30	3.2	11	11	5	12	nw.	U. S. Weather Bureau.	
May City	Cape May	11	11	33.4	-2.3	50	21	9	6	22	3.29	-0.49	1.55	5.5	10	11	9	8	n.	U. S. Weather Bureau.	
Average for District.				32.3	-0.7						2.55	-1.22		4.3							

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records at stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus, (a), 1 day, (b), 2 days, etc. If a station is closed late; not considered in averages. † Incomplete. "T", when used, indicates amount too small to measure.

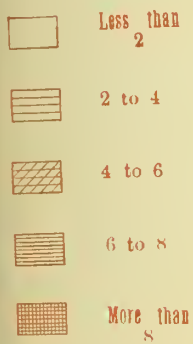






# TOTAL PRECIPITATION, FEBRUARY, 1906

Scale of Shades—Inches



## Daily Precipitation for New Jersey, February, 1906.

Stations.	Day of month.																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
<b>The Highlands &amp; Kittatinny Val.</b>																															
Layton.....					1.00				.90						.08			†			.60					.50					
Sussex.....					†				1.00						†			†			.95	.45				.35					
Newton.....					.02				1.44						.08	.06		†	.04		.81	.17				.26					
Belvidere.....									1.65						.14						.87	.45				.43					
Charlottesville.....					†				.80						.07			†	.04		*	.65				.61					
Dover.....									.80						.10						.80					.55					
Phillipsburg.....					.03				1.36						.03	.04		†	.01		.96	.16				.44					
Pompton Plains.....									1.08						.12				.10		.82					.30					
<b>The Red Sand Stone Plain.</b>																															
Paterson.....					†				1.38						.08	.22		.01			.36	.85				.59					
Mahwah.....					†				1.00						.12						.71					.45					
River Vale.....									1.00												*	.68				.32					
Little Falls.....					†				1.17						.21			.10			1.21					.43					
Englewood.....																															
Chatham.....					†				.53						.30						.80					.39					
Newark.....					†				.07	.52					.17			†			.74					.41					
South Orange.....					†				.70						.20			†			.74					.52					
New York City, N. Y.....					.01				.12	1.10					.12			†			.58	†				.64					
Jersey City.....					.01				†	1.47					.01	.13		†	†		.47	.34				.40	†				
Bayonne.....					†				.65						.02	.10		†	†		.47	.38				.48	†				
Bergen Point.....					†				.82						.03	.10		†	†		.38	.27				.49	.01				
Plainfield.....					.01				†	1.07					†	.14		†	†		.56	.20				.39					
Elizabeth.....																															
Somerville.....					†				.95						.05	.20		†	†		.27	.45				.41					
Flemington.....					†				.70						.04	.06	.04	†			.41	.37				.47	.03				
Lambertville.....					†				1.28						.04	.14		†	†		.68					.48		†			
New Brunswick.....	†				†				1.04						.02	.16		†	†		.13	.39				.38		†			
College Farm.....					†				.82						†	.17		†			.18	.43				.44	†				
<b>The Southern Interior.</b>																															
Trenton.....					†			*	.82					.12	.16			†	†		.60					.56		†			
Imlaystown.....					†				.68					.02	.18						.42					.64		†			
Moorstown.....					.01		†		1.06					.01	†	.17		†	†		.18	.24				.39	†	†	†		
Rancocas.....					.01				.35	.52			†	.01	.23	†		†			.46					.48		†			
Brown's Mills.....																															
Lakewood.....					.03				1.06					.15	.01						.25	.20				.44		†			
Indian Mills.....					.03		†		1.04					.11		.18		†			.28	.28				.50		*	.06		
Beverly.....					.02				.20	1.14			†	†	†	.20		†	†		.28	.20				.44	†				
Philadelphia, Pa.....					.01		†		.34	.81				†	.24	†		.01			.63					.42	†				
Clayton.....					.11				1.43					.06		.16		†			.39					.32		†	.05		
Vineland.....					.06		†		.05	1.33				.13	.07			†			*	.46				.44		.05		.03	
Bridgeton.....					.17				2.00			†			.05			†	†		*	.58				.42		.17			
Friesburg.....					†		†		1.52					.05	.01	.15		†			*	.38				.36	.01	.10			
Canton.....																															
Toms River.....																															
Tuckerton.....																															
Pleasantville.....																															
Woodbine.....					.25			*	2.15					.75							*	.25				.25		*	.20		
Cape May C. H.....		†			.23		†	*	1.30					.86	†	.12		†			.23	.03				.29		.33	†		
<b>The Sea Coast.</b>																															
Sandy Hook.....					†				1.14					.07	.02	.13		†			.27	.14				.29					
Oceanic.....					†				.98					.12	†	.14		†			.11	.28				.20	.12				
Asbury Park.....					†			*	.94					.13	†	.07					.03	.29				.26	.05		†		
Atlantic City.....					.15	†			.37	.93				.08	.99	.07	.01		†	†	.50	.03				.23		.30			
Cape May City.....		†			.05		†		.69	.86				.27	.58	.06	†		.02		.24					.21		.31			

\* Precipitation included in that of following day.

† Indicates amount too small to measure.



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U. S. DEPARTMENT OF AGRICULTURE.

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REPORT FOR MARCH, 1906.

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NEW JERSEY SECTION  
OF THE  
CLIMATOLOGICAL SERVICE  
OF THE  
WEATHER BUREAU.

IN COOPERATION WITH THE  
NEW JERSEY STATE WEATHER SERVICE.

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

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UNDER DIRECTION OF  
WILLIS L. MOORE,  
CHIEF U. S. WEATHER BUREAU,

BY  
LEVI A. JUDKINS,  
SECTION DIRECTOR.



ATLANTIC CITY, N. J.  
WEATHER BUREAU OFFICE.  
APRIL 21, 1906.

MONTHLY MEAN ISOTHERMS AND PREVAILING DIRECTION OF WIND, MARCH, 1906.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

OL. XIX

ATLANTIC CITY, N. J., MARCH, 1906.

No. 3.

## GENERAL SUMMARY.

The prominent features of March, 1906, were low mean temperature, lack of sunshine, and frequent and heavy precipitation, coupled with an unusually large total snowfall. The mean temperature was nearly  $5.5^{\circ}$  lower than the mean for the corresponding month of 1905, and was but  $1.6^{\circ}$  higher than the mean for the coldest March on record—March, 1888. The absolute maximum temperature for the month,  $62^{\circ}$ , was exceptionally low, and the absolute minimum,  $-15^{\circ}$ , established a new record for March. The temperature during the first eleven days of the month was generally seasonable, but from the 13th to the 26th, inclusive, severe cold weather was prevalent, the minimum temperatures, in the extreme northern districts, being below zero on the 24th and 25th. The closing days of the month were characterized by spring-like thermal conditions.

The precipitation exceeded the average by slightly more than one inch, although a marked deficiency occurred over the extreme southern portion of Cape May County. Conspicuous storms of the month were those of the 3d-4th, the 15th and the 19th. The first mentioned was in the form of rain, and the precipitation over a large part of the northern half of the State was excessive, ranging from 1.15 inches, at River Vale, to 2.86 inches at Paterson. The storms on the 15th and the 19th were mostly in the form of snow, the total depths varying from about three inches, in the southern, to upwards of 15 inches, in the more northern districts. In the coast sections, and the other southern counties, a rapid disappearance of the snow occurred, but over the northern interior the ground was covered to a depth of several inches until near the close of the month. At this latitude, the month of March rarely furnishes a parallel to the snowfall record for the current month, the average of which was greater, by 1.7 inches, than the total of the averages for December, 1905, and January and February, 1906.

## TEMPERATURE.

The monthly mean,  $34.4^{\circ}$ , was  $3.6^{\circ}$  below normal and  $5.4^{\circ}$  below the mean for the corresponding month of 1905. The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $30.4^{\circ}$ ; Red Sand Stone Plain,  $36.8^{\circ}$ ; Southern Interior,  $36.8^{\circ}$ ; Sea Coast,  $36.4^{\circ}$ .

The highest monthly mean was  $38.6^{\circ}$ , at Cape May C. H., and the lowest,  $27.6^{\circ}$ , at Layton.

The absolute maximum was  $62^{\circ}$ , at Imlaystown, on the 4th, and at Oceanic, on the 27th, and the absolute minimum,  $-15^{\circ}$ , at Layton, on the 24th.

The absolute range for the State was  $77^{\circ}$ .

The greatest local monthly range was  $64^{\circ}$ , at Layton, and the least,  $34^{\circ}$ , at Cape May City.

The greatest daily range was  $54^{\circ}$ , at Layton, on the 25th.

## PRECIPITATION.

The average (including melted snow) was 5.09 inches, or 1.06 inches above normal, and 1.14 inches above the average for the corresponding month of 1905.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 5.06 inches; Red Sand Stone Plain, 5.03 inches; Southern Interior, 5.45 inches; Sea Coast, 4.82 inches.

The greatest monthly amount was 6.77 inches, at New Brunswick, and the least, 2.91 inches, at Cape May City.

The greatest amount in any 24 consecutive hours was 2.77 inches, at Pompton Plains, on the 3d-4th.

The average number of days with a measurable amount was 11.

The average snowfall was 11.2 inches, the average amounts for the various districts being as follows: The Highlands and Kittatinny Valley, 16.2 inches; Red Sand Stone Plain, 12.6 inches; Southern Interior, 7.2 inches; Sea Coast, 8.6 inches.

The greatest monthly amount of snow was 22.7 inches, at Sussex, and the least, 3.0 inches, at Woodbine.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 10; partly cloudy, 9; cloudy, 12. At Atlantic City the amount of sunshine was 48 per cent of the possible amount.

## WIND.

The prevailing wind direction was northwest. Maximum velocities (for five-minute periods), for the month, were recorded as follows: Atlantic City, 35 miles per hour, from the northeast, on the 15th; Jersey City, 59 miles, from the west, on the 10th; Sandy Hook, 60 miles, from the west, on the 10th.

## MISCELLANEOUS PHENOMENA.

*Excessive precipitation* (2.50 inches in 24 hours).—Dover, 3d, 2.55 inches; Pompton Plains, 3d-4th, 2.77 inches; Mahwah, 3d-4th, 2.76 inches; Little Falls, 3d-4th, 2.51 inches; Chatham, 3d-4th, 2.55 inches; Jersey City, 3d-4th, 2.63 inches; Trenton, 3d-4th, 2.54 inches; Atlantic City, 19th, 2.63 inches.

*Fog*.—Asbury Park, 30th; Beverly, 25th, 30th; Cape May City, 3d, 8th, 19th, 27th, 30th, 31st; Jersey City, 3d; Oceanic, 3d, 30th; Paterson, 27th, 30th; Phillipsburg, 26th, 27th, 30th; Plainfield, 26th, 27th; Rancocas, 30th; Sandy Hook, 14th, 20th, 30th; Somerville, 27th; Toms River, 8th; Trenton, 26th, 27th; Tuckerton, 30th, 31st.

*Halos, lunar*.—Layton, 8th; Phillipsburg, 8th; Sandy Hook, 12th.

*Halos, solar*.—Imlaystown, 24th; Indian Mills, 24th; Jersey

City, 24th; Layton, 21st; Moorestown, 24th; Plainfield, 24th; Rancocas, 24th, 28th.

*Lightning*.—Beverly, 3d; Rancocas, 3d.

*Select*.—Asbury Park, 15th; Atlantic City, 19th; Bayonne, 15th, 19th; Bergen Point, 15th, 19th; Beverly, 15th; Canton, 15th; Clayton, 15th, 19th; New Brunswick, 15th; Englewood, 15th, 19th; Flemington, 15th; Indian Mills, 15th, 19th; Jersey City, 15th, 19th; Lambertville, 15th; Moorestown, 15th, 19th; Oceanic, 15th; Paterson, 15th; Phillipsburg, 15th, 19th; Plainfield, 15th, 19th; Rancocas, 10th, 12th, 15th, 19th; Sandy Hook, 19th; Somerville, 10th, 19th, 20th; Toms River, 15th; Trenton, 15th.

*Thunderstorms*.—On the 3d at 12 stations; on the 4th at 4 stations; on the 19th at 1 station; on the 20th at 1 station. At Weather Bureau stations, thunderstorms occurred as follows: Atlantic City, 3d, 4th; Cape May City, 3d.

### OBSERVERS' REMARKS.

Beverly.—The ground was covered with snow, varying in depth from 1.5 inches to 3.8 inches, from the 15th to the 25th, inclusive.

C. F. RICHARDSON.

Dover.—The weather during the latter half of the month was unusually severe. There was snow on the ground from the 14th to the 31st, inclusive.

W. C. HARRIS.

Jersey City.—The Hudson River at this point was free from ice after the 6th.

S. K. PEARSON, JR.

Moorestown.—The maximum temperature of the month, 58°, is, with one exception, the lowest on record for March, for a period of 43 years.

JOHN C. BEANS.

Sandy Hook.—Several violent wind-squalls, attended by snow, occurred on the 10th. The wind reached a velocity of 60 miles per hour.

A. E. JEWELL.

### THE WINTER OF 1905-6.

The mean temperature for the period extending from December 1, 1905, to February 28, 1906, inclusive, was 34.3°. The normal temperature for the same period is 31.3°. The average excess of mean temperature for the winter of 1905-6 was, therefore, 3.0°. The greatest monthly excess was 6.5°, for January, and the least, 0.3°, for February. With one exception (1891-2), it was the warmest winter since the memorable winter of 1889-90, when the mean temperature was practically 41°, or 9.6° above normal.

The following table shows the mean temperatures for the past 19 winters:

1887-8.	1888-9.	1889-90.	1890-1.	1891-2.
29.9°	32.9°	40.9°	34.2°	34.8°
1892-3.	1893-4.	1894-5.	1895-6.	1896-7.
27.4°	32.9°	28.8°	32.6°	30.9°
1897-8.	1898-9.	1899-1900.	1900-1.	1901-2.
33.5°	29.7°	32.9°	30.1°	29.5°
1902-3.	1903-4.	1904-5.	1905-6.	
31.9°	25.5°	25.8°	34.3°	

### DELAYED REPORTS.

Englewood, N. J.—February, 1906. Temperature; mean, 29.2°; departure, +0.7°; highest, 56°, on the 21st; lowest, 2°, on the 6th; greatest daily range, 26°. Total precipitation, 2.76 inches; departure, -3.37 inches; greatest in 24 hours, 1.19 inches; total snowfall, 5.5 inches; days with .01 of an inch, or more, 6. Number of clear days, 13; partly cloudy, 3; cloudy, 12. Prevailing wind direction, northwest.

Elizabeth, N. J.—February, 1906. Temperature; mean, 32.2°; departure, +0.8°; highest, 56°, on the 21st; lowest, 2°, on the 6th; greatest daily range, 27°. Total precipitation, 2.10 inches; departure, -2.31 inches; greatest in 24 hours, .90 of an inch; total snowfall, 5.5 inches; days with .01 of an inch, or more, 6. Number of clear days, 20; partly cloudy, 5; cloudy, 3. Prevailing wind direction, west.

Canton, N. J.—February, 1906. Total precipitation, 2.66 inches; greatest in 24 hours, 1.44 inches; total snowfall, 1.1 inches; days with .01 of an inch, or more, 9. Number of clear days, 16; partly cloudy, 5; cloudy, 7.

Toms River, N. J.—February, 1906. Temperature; mean, 32.1°; departure, +2.4°; highest, 61°, on the 21st; lowest, 3°, on the 3d; greatest daily range, 33°. Total precipitation, 2.2 inches; departure, -2.75 inches; greatest in 24 hours, 1.1 inches; total snowfall, trace; days with .01 of an inch, or more, 6. Number of clear days, 17; partly cloudy, 4; cloudy, 7. Prevailing wind direction, northwest.

### ERRATA.

January, 1906.—Sussex, page 5; total snowfall, published 2.5 inches, should be 4.5 inches. Lakewood, pages 5 and 6; total precipitation, published 3.03 inches, should be 3.05 inches. Philadelphia, Pa., page 8; total precipitation, published 3.12 inches, should be 3.16 inches.

### COMPARATIVE DATA FOR MARCH.

YEAR	TEMPERATURE			AVERAGE PRECIPITATION
	MEAN	HIGHEST	LOWEST	
1887	37.7	61	8	3.34
1888	32.8	72	-4	5.71
1889	40.5	70	19	3.79
1890	37.6	77	0	6.08
1891	37.2	68	4	5.06
1892	34.4	65	6	4.75
1893	37.0	69	5	3.73
1894	44.2	83	12	1.77
1895	36.7	72	7	3.16
1896	34.0	70	-8	5.34
1897	40.0	77	8	2.78
1898	45.1	77	16	3.33
1899	38.6	73	13	6.54
1900	35.6	67	-9	3.51
1901	39.2	75	-8	4.64
1902	43.9	77	0	4.34
1903	47.6	79	13	5.13
1904	37.2	72	1	3.43
1905	39.8	87	-7	3.95
1906	34.4	62	-15	5.09



## Climatological Data for New Jersey, March, 1906.

Stations.	Counties.	Elevation, feet, above sea level.	Length of record years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.					Sky.				Observers	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from normal.	Greatest in 24 hours.	Total snowfall (unmelted.)	Days with .01 or more.	Number of clear days.	Number partly cloudy days.	Number cloudy days.		Prevailing direction of wind.
<b>The Highlands and Kittatinny Valley.</b>																				
on.....	Sussex.....	550	4	27.6	...	49	29	-15	24	54	4.41	+0.35	2.37	16.0	8	18	3	10	sw.	Warren C. Hursh.
ex.....	Sussex.....	412	11	30.4	-6.0	54	28	-7	25	48	4.87	+0.86	1.40	22.7	8	14	8	9	w.	Prof. W. H. Seeley.
ton.....	Sussex.....	658	26	29.9	-4.6	50	8	-15	25	44	5.18	+1.86	2.25	17.2	13	11	11	9	nw.	Brice Bowman.
dere.....	Warren.....	289	15	32.8	-4.3	56	4	3	24	58	5.32	+1.49	1.50	13.5	8	15	5	11	...	Samuel J. Hixson.
lotteburg.....	Passaic.....	719	13	29.7	-6.2	53	4	-7	25	44	4.11	-0.48	2.00	15.0	11	13	8	10	...	G. S. Briggs.
r.....	Morris.....	575	20	29.6	-4.5	52	3-4	5	24-25	29	4.73	+0.91	2.55	16.0	8	4	12	15	...	William C. Harris.
psburg.....	Warren.....	196	4	32.9	-3.4	56	4	5	24	31	5.34	+1.96	2.49	12.9	13	10	8	13	nw.	D. W. Smith.
pton Plains.....	Morris.....	196	4	...	...	...	...	...	...	...	5.00	...	2.77	...	10	...	...	...	...	River & Flood Service.
verage for District..				30.4	-4.8	...	...	...	...	...	5.06	+1.42	...	16.2	10	12	8	11	...	
<b>The Red Sand Stone Plain.</b>																				
son.....	Passaic.....	110	30	35.0	-3.3	56	28	11	24	28	5.91	+1.34	1.50	12.6	13	8	13	10	nw.	H. A. Probert.
vah.....	Bergen.....	70	14	32.2	-5.2	53	4	-2	24	41	4.78	...	2.76	...	8	...	...	...	nw.	River & Flood Service.
Valley.....	Bergen.....	70	14	32.2	-5.2	53	4	-2	24	41	4.78	...	2.76	...	8	...	...	...	nw.	A. C. Holdrum.
Falls.....	Passaic.....	135	16	33.6	-3.7	54	4	10	24	22	5.19	+0.63	1.86	14.0	11	6	10	15	w.	River & Flood Service.
wood.....	Bergen.....	135	16	33.6	-3.7	54	4	10	24	22	5.19	+0.63	1.86	14.0	11	6	10	15	w.	William C. Tucker.
nam.....	Morris.....	140	14	33.3	-4.2	55	4	9	24	24	4.97	...	2.55	...	9	...	...	...	...	River & Flood Service.
ark.....	Essex.....	200	35	33.4	-2.7	60	3	12	24	30	3.70	+1.07	2.35	13.5	11	11	9	9	w.	Prof. G. C. Sonn.
Orange.....	Essex.....	314	36	34.9	-2.7	55	27	16	24	30	3.70	+1.07	2.35	13.5	11	11	9	9	w.	W. J. Chandler, M.D.
York City.....	New York.....	15	...	35.0	...	55	27	13	24	23	6.07	+1.49	2.44	13.4	12	7	12	12	nw.	U. S. Weather Bureau.
y City.....	Hudson.....	50	14	34.1	-5.1	55	4	11	24	25	5.18	+1.02	2.43	12.2	16	8	10	13	nw.	Samuel K. Pearson, Jr.
ne.....	Hudson.....	37	8	31.0	-6.6	56	27	11	24	21	5.09	+0.12	2.42	12.2	9	6	16	9	nw.	John H. Eadle.
Point.....	Union.....	100	14	33.7	-4.7	55	3-4	11	24	25	5.07	+0.65	2.35	14.9	12	7	15	9	nw.	Dr. W. H. Mitchell.
eld.....	Union.....	33	25	35.2	-2.1	54	28	15	24	23	3.78	-0.36	2.30	10.0	9	19	4	8	nw.	John Neagle.
eth.....	Somerset.....	76	21	33.8	-4.7	56	4	10	24	24	3.96	+0.15	2.06	13.5	14	11	4	16	nw.	W. M. Oliver.
ngton.....	Hunterdon.....	187	8	31.0	-6.5	56	4	8	24	29	3.96	-0.50	1.54	10.0	10	13	6	12	nw.	Peter Hardcastle.
erville.....	Hunterdon.....	95	17	35.2	-2.9	57	29	9	24	27	5.42	+1.39	2.37	13.5	10	13	10	8	e.	W. E. Deats.
Brunswick.....	Middlesex.....	61	47	35.2	-3.2	57	4	11	24	32	6.77	+2.98	2.46	9.9	15	7	15	9	nw.	William R. Bowne.
e Farm.....	Middlesex.....	100	9	33.6	...	57	4	7	24	25	4.28	+0.15	2.46	6.0	10	13	8	10	n.	Charles V. Meyers.
verage for District..				34.1	-3.7	...	...	...	...	...	5.03	+0.90	...	12.6	11	10	10	11	...	Miss J. A. Voorhees.
<b>The Southern Interior.</b>																				
on.....	Mercer.....	60	29	37.4	...	58	3-4	12	24	25	4.42	-0.07	2.54	7.0	9	6	15	10	nw.	E. R. Cook.
stown.....	Monmouth.....	106	18	38.4	-0.6	62	4	13	24	29	5.25	+0.94	2.33	7.2	11	11	9	9	nw.	F. C. Price, M.D.
stown.....	Burlington.....	71	42	35.4	-2.7	58	3	13	24	27	5.37	+1.73	1.73	6.8	16	8	9	14	nw.	John C. Beans.
as.....	Burlington.....	68	16	...	...	...	...	...	...	...	5.28	+1.28	1.90	10.0	16	11	6	14	nw.	Spencer Haines.
's Mills.....	Burlington.....	71	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	F. J. Miller.
ood.....	Ocean.....	54	4	34.6	...	60	27	10	1	30	4.42	...	1.95	5.5	11	15	8	8	e.	C. A. Roe.
Mills.....	Burlington.....	76	4	36.6	...	57	4-27	10	24	27	5.79	...	1.87	11.0	14	10	12	9	w.	James Armstrong.
y.....	Burlington.....	30	20	36.0	-3.1	57	3-4	13	24	25	5.59	+1.35	2.15	14.0	15	6	15	10	ne.	C. F. Richardson.
Philadelphia, Pa.....	Philadelphia.....	...	36	36.7	-3.3	58	3	16	24	24	5.59	+2.11	2.42	9.1	16	9	6	16	nw.	U. S. Weather Bureau.
n.....	Gloucester.....	126	8	36.5	-5.8	58	27	16	24	25	5.72	+2.13	1.84	6.3	12	13	6	12	w.	Wm. T. Farley.
id.....	Cumberland.....	118	33	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	Alfred Chalmers.
ton.....	Cumberland.....	30	18	35.5	-3.4	58	26	17	24	24	6.62	+1.99	2.00	7.0	12	11	9	11	ne.	Henry A. Jorden.
rg.....	Salem.....	143	12	36.6	-6.1	58	27	12	24	25	5.31	+2.01	1.79	6.0	15	9	15	7	ne.	H. C. Perry.
ton.....	Salem.....	24	3	...	...	...	...	...	...	...	5.21	...	1.79	3.6	9	14	6	11	ne.	J. H. Maskell.
River.....	Ocean.....	33	12	35.0	-4.4	61	27	14	1	29	5.43	+0.93	2.00	...	9	18	2	11	nw.	S. R. Harris.
ton.....	Ocean.....	23	8	36.4	-4.7	57	28	14	18	24	5.80	+1.26	2.15	6.0	12	8	11	12	ne.	F. R. Austin.
atville.....	Atlantic.....	26	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	L. Van Gilder.
ne.....	Cape May.....	43	13	37.8	-3.4	57	27	16	1-18	26	5.75	+2.05	2.10	3.0	11	18	4	9	ne.	Arthur R. Merrill.
ay C. H.....	Cape May.....	19	17	38.6	-2.6	58	27	19	24	25	5.67	+1.51	1.75	6.0	10	8	9	14	nw.	L. T. Garretson.
verage for District..				36.8	-3.3	...	...	...	...	...	5.45	+1.44	...	7.2	12	11	9	11	...	
<b>The Sea Coast.</b>																				
ook.....	Monmouth.....	14	2	33.8	...	58	27	14	1	22	4.60	...	2.22	13.5	13	9	6	16	w.	Arthur E. Jewell.
Monmouth.....	Monmouth.....	16	18	35.4	-3.9	62	27	16	1-23	23	4.92	+0.37	2.02	9.0	15	11	11	9	ne.	Rev. S. W. Knipe.
Park.....	Monmouth.....	22	16	35.4	-3.6	56	27-28	15	1-24	20	5.17	+0.54	2.13	14.4	14	10	10	11	w.	B. H. Obert.
City.....	Atlantic.....	53	31	37.0	-1.5	54	27	17	24	20	6.30	+2.51	2.63	5.3	14	6	8	17	ne.	U. S. Weather Bureau.
y City.....	Cape May.....	11	11	37.6	-1.9	54	3-4	20	24	18	2.91	-1.47	1.14	5.5	16	7	11	13	ne.	U. S. Weather Bureau.
verage for District..				36.4	-2.8	...	...	...	...	...	4.82	+0.49	...	8.6	14	9	9	13	...	

If records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus, (a), 1 day, (b), 2 days, etc. d late; not considered in averages. † Incomplete. "T", when used, indicates amount too small to measure. ‡ Precipitation data not included in averages.

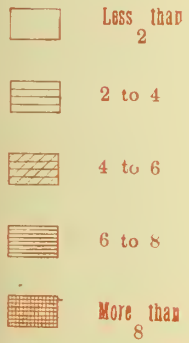


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TOTAL PRECIPITATION, MARCH, 1906.

Scale of Shades—Inches



## Daily Precipitation for New Jersey, March, 1906.

Stations.	Day of month.																															Total.			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
The Highlands & Kittatinny Val.																																			
Layton.....			1.04	1.33			.07					.10			.85				.65									.15				.22	4.4		
Sussex.....			1.00	1.10			.10			†		.05	†	.02	1.40				.80								†					.40	4.8		
Newton.....			1.20	1.05			.06	.07		.05		.05	†	.07	.82	.36			.80	.16							†	.17				.32	5.1		
Belvidere.....			1.50	.80			.04							.06	1.24				1.02									.24				.42	5.3		
Charlotteburg.....			* 2.00				.10			†		.04		.07	*	.80			*	.56							†	.26				.26	4.1		
Dover.....			2.55	†			†			†				.05	.70				.85								†	.38			*	.20	4.7		
Phillipsburg.....			1.75	.74	†		†	.06		†		.02	.01	.07	1.09	.05	†		.81	.17		.03				†	.23	†		†	.31	5.3			
Pompton Plains II.....			.08	2.77									†	.03	.05	1.27				.98								.05	.20		.02	.15	5.6		
The Red Sand Stone Plain.																																			
Paterson.....			1.50	1.36			†	.02		†		†		.04	1.32	.08			.85	.24		†					.09	.11	.04		.05	.21	5.9		
Mahwah II.....				2.76				†		†		.05		.03	.10	.44				1.02							.10	.10	.21			.17	4.7		
River Vale.....			.85	.30										.20	*	1.00			*	.80							.10	.10					.40	4.8	
Little Falls, II.....			.01	2.51				.04				.03		.05	.22	1.03				.79		†					†	.11	.12				.21	5.1	
Englewood.....			1.86	.42								.03		.05	1.42				1.02								.09	.06			.06	.13	5.1		
Chatham II.....			.10	2.55				.03							.90				1.02		.80						†	.12	.15			.03	.29	4.4	
Newark.....			2.22	.13			.01			†		.02	.01	.08	.31				1.26				†				†	.13	.08		†	.43	.44		
South Orange.....			2.15				.02			†		†	†	.10	.60				.45			†					.10	.13				.15	.37		
New York City, N. Y.....			1.94	.50			.01			†	†	.02	.01	.06	1.29				1.45								.07	.07				.05	.11	5.2	
Jersey City.....			1.67	.96			†	.01		.02	†	.03	.02	.05	1.47	.03			.37	.50		†				.07	.10	†			.09	.18	6.0		
Bayonne.....		†	1.43	1.00			.01	.02		.01		.02	.01	.64	1.20	.02			.66	.35						.06	.11			†	.08	.16	5.0		
Bergen Point.....			1.44	.98			†			†				†	.96	.02			1.01	.24						.06	.10					.06	.28	5.0	
Plainfield.....			1.53	.82			.01			†	†			.05	1.26	.03			.84	.19							.02	.14		†	.03	.15	5.4		
Elizabeth.....			* 2.30				†	.10		†				.05	.50				.50								*	.17			.21	.37			
Somerville.....			1.25	.81			†	.05		.04		.02	†	.05	.50	.05			.50	.26						.05	.15				.03	.20	3.1		
Flemington.....			1.54	.85			†			†		.05	†	.08	.50	†	†		.50	†		†				.04	.14				.04	.22	3.1		
Lambertville.....			2.37				.03		†			.05	†	.06	1.34				1.03			.01				†	.20				.08	.25	5.0		
New Brunswick.....			1.33	1.13				.04		.05		.02	.01	.05	1.16	1.01			.53	.99						.05	.11				.06	.23	6.0		
College Farm.....			1.32	1.14						.14			†	.05	.59				.64	.05		†				.04	.12				.05	.19	4.0		
The Southern Interior.																																			
Trenton.....			1.14	1.40	†		.06		†	†		†	†	†	.55	†			.68			†					.12	.06	.08	†	.33		4.0		
Inlaystown.....			* 2.33						.03					.02	.94				1.64								.02	.03			*	.24		5.0	
Moorestown.....			.82	.91	†		†	.02		.04		.02	.02	.01	1.19	.16			.85	.67		†					.10	.08			.02	.27	.19	5.0	
Rancocas.....			.90	1.00			†	.02	†	.02		.03	.05	.05	1.05	.15	†		1.00	.37		†				.12	.04			.05	.25	.18	5.0		
Brown's Mills.....																																			
Lakewood.....			.92	1.03									†	.05	.30	.99			.40	.28							.06	.05				.11		.23	4.0
Indian Mills.....			.63	1.24			.03						.20	.05	1.20	.29			.66	.75							.13	.12		*	.34	.15	5.0		
Beverly.....			.93	1.22	†		†	.03				.06	.04	.03	1.15	.05			1.06	.47		†				.07	.04			.07	.16	.21	5.0		
Philadelphia, Pa.....			2.20	.22	†		.02	†	†	.03		.01	.06	.04	1.17	.07			1.18	†		.01				.07	.05			.12	.13	.21	5.0		
Clayton.....			* 1.84				.05					†		*	*	1.49			1.55								.13	.16			.39	.11	5.0		
Vineland.....																																			
Bridgeton.....			.70	1.30			†		†			.32	.55	.85	.30				1.40	.42							.15	.16			.30	.17		6.0	
Friesburg.....			.75	1.04			*	.05		.03		*	.14	*	1.28				*	1.35							.13	.15		†	*	.42	5.0		
Canton.....			1.79				.04		†	†		.17	*	*	1.23				1.40								.11	.14			†	.33	†	5.0	
Toms River.....			2.00				.03	†	†				*	*	1.29				1.61								.10	.08			.32			5.0	
Tuckerton.....			.85	.94				.04					*	.34	.90				*	2.15							.13	.14			.21	.10	5.0		
Pleasantville.....																																			
Woodbine.....			* 2.10									.30	*	*	.75				*	2.10						*	.15				.20	.15	5.0		
Cape May C. H.....			.20	1.55	†				†					40	†	1.09	.11		1.40	.49						†	.10				.28	.05	5.0		
The Sea Coast.																																			
Sandy Hook.....			1.26	.96				.01		.04		.03	.01	.04	.80				.80	.31								.05				.13	.16	4.0	
Oceanic.....			.78	1.24				.02	†	.05		.04	.02	.03	*	.92			*	1.35							.05	.10				.11	.21	4.0	
Asbury Park.....			.88	1.25			†	†	.03		.02	.03	.06	.80	.25				.49	.93							.06	.08				.15	.14	5.0	
Atlantic City.....			.98	.66			.03	.02		†			.30	.05	1.11	.13			2.63								.07	.12			.07	.10	.03	6.0	
Cape May City.....			.89	.25			.02	.04	†	†			.33	.16	.40	.02	†		.43						.02	.03	.02	.04			.16	.07	2.0		

† Precipitation measured at 8 a. m., 75th meridian time.

\* Precipitation included in that of following day.

† Indicates amount too small to measure.



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U. S. DEPARTMENT OF AGRICULTURE.

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REPORT FOR APRIL, 1906.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU.

IN COOPERATION WITH THE

NEW JERSEY STATE WEATHER SERVICE.

---

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

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UNDER DIRECTION OF

WILLIS L. MOORE,

CHIEF U. S. WEATHER BUREAU,

BY

LEVI A. JUDKINS,

SECTION DIRECTOR.



ATLANTIC CITY, N. J.  
WEATHER BUREAU OFFICE.

MAY 21, 1906.

MONTHLY MEAN ISOTHERMS AND PREVAILING DIRECTION OF WIND, APRIL, 1906.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XIX

ATLANTIC CITY, N. J., APRIL, 1906.

No. 4

## GENERAL SUMMARY.

The weather of April, 1906, was, on the whole, pleasant and very much more agreeable than that of the preceding month. There was a large amount of sunshine. The mean temperature averaged about  $2^{\circ}$  above the normal, and was the highest that has been recorded in April in a period of 10 years. The strict departures ranged from  $+1.5^{\circ}$ , in the Highlands and Kittatinny Valley section, to  $+2.4^{\circ}$ , in the counties comprising the Southern Interior. The first decade was, as a rule, moderately cold, and in this period the absolute minimum temperatures, ranging from about  $20^{\circ}$  (in the extreme north) to slightly below  $32^{\circ}$  (in the coast sections), were registered. Throughout the remainder of the month freezing weather that occurred at night, at intervals, was confined to exposed localities in the northern interior, a great part of the State being free from temperatures of  $32^{\circ}$  after the 7th. The principal warm period of the month extended from the 18th to the 21st, inclusive, although high temperatures occurred on the 27th and 30th. Frosts were frequent during the month, but their effects were not serious.

The precipitation, for the State at large, was slightly above normal. A favorable distribution was secured in the northern districts, where the monthly amounts were considerably greater than usual. In the sections bordering upon the ocean a marked deficiency occurred, particularly in portions of Atlantic and Cape May counties, where the totals for the month were less than 2 inches. The average rainfall for the Southern Interior division was also below the normal—nevertheless, the soil, at the close of the month, was in good condition in practically all districts.

## TEMPERATURE.

The monthly mean,  $51.2^{\circ}$ , was  $2.1^{\circ}$  above normal and  $1.3^{\circ}$  above the mean for the corresponding month of 1905.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $49.5^{\circ}$ ; Red Sand Stone Plain,  $51.6^{\circ}$ ; Southern Interior,  $52.7^{\circ}$ ; Sea Coast,  $50.9^{\circ}$ .

The highest monthly mean was  $55.0^{\circ}$ , at Bridgeton, and the lowest,  $47.2^{\circ}$ , at Layton.

The absolute maximum was  $87^{\circ}$ , at Bridgeton, on the 27th and 30th, and the absolute minimum,  $17^{\circ}$ , at Layton, on the 2d and 3d.

The absolute range for the State was  $70^{\circ}$ .

The greatest local monthly range was  $62^{\circ}$ , at Toms River, and the least,  $43^{\circ}$ , at Sandy Hook.

The greatest daily range was  $48^{\circ}$ , at Layton, on the 4th.

## PRECIPITATION.

The average, 3.64 inches, was 0.26 of an inch above normal, and 0.76 of an inch above the average for the corresponding month of 1905.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 4.52 inches; Red Sand Stone Plain, 4.89 inches; Southern Interior, 2.67 inches; Sea Coast, 2.49 inches.

The greatest monthly amount was 6.42 inches, at Englewood, and the least, 1.17 inches, at Cape May City.

The greatest amount in any 24 consecutive hours was 3.18 inches, at Newark, on the 9th-10th.

The average number of days with a measurable amount was 8.

Excessive precipitation (2.50 inches, or more, in 24 hours), occurred as follows: Chatham, 10th, 2.50 inches; Hightstown, 9th, 2.50 inches; Mahwah, 10th, 2.60 inches; Newark, 9th-10th, 3.18 inches; Paterson, 10th, 2.52 inches; South Orange, 9th, 2.50 inches.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 15; partly cloudy, 10; cloudy, 5. At Atlantic City the amount of sunshine was 69 per cent of the possible amount.

## WIND.

The prevailing direction was northwest. Maximum velocities (for five-minute periods), for the month, were recorded as follows: Atlantic City, 29 miles per hour, from the southeast, on the 9th; Jersey City, 49 miles per hour, from the northwest, on the 24th.

## MISCELLANEOUS PHENOMENA.

*Fog*.—Atlantic City, Beverly, Hightstown, Moorestown, Trenton, Vineland, 10th; Bayonne, Bergen Point, Flemington, Jersey City, Somerville, 20th; Sandy Hook, 20th, 21st.

*Hail*.—Hightstown, Imbstown, 10th; Little Falls, 30th.

*Halos, lunar*.—Atlantic City, 1st, 4th; Jersey City, 8th; Moorestown, 29th, 30th; Trenton, 8th.

*Halos, solar*.—Atlantic City, 5th, 29th; Indian Mills, 5th, 29th; Jersey City, 1st, 5th, 8th, 27th, 29th; Imbstown, 27th; Moorestown, 5th; Sandy Hook, 5th.

*Lightning*.—Asbury Park, Bayonne, Indian Mills, Lambertville, Somerville, Toms River, 21st.

*Meteor*.—Bayonne, 20th.

*Sleet*.—Bayonne, 9th, 23d; Bergen Point, Dover, Englewood, Jersey City, 9th; Layton, Newton, 23d; Paterson, 9th; Phillipsburg, 9th, 23d; Plainfield, 9th; Somerville, 9th, 23d; Sussex, Trenton, 23d.

*Thunderstorms*.—On the 9th at 1 station; on the 10th at 7 stations; on the 11th at 1 station; on the 20th at 3 stations; on the 21st at 15 stations; on the 22d at 2 stations; on the 23d at 4 stations; on the 29th at 3 stations; on the 30th at 28 stations.

**OBSERVERS' REMARKS.**

Bayonne.—Four thunderstorms occurred during the month. The piping of lizards and the croaking of frogs were heard, for the first time this season, on the 4th. J. H. EADIE.

Beverly.—The weather during April was, on the whole, pleasant. There was only one heavy rainfall. C. F. RICHARDSON.

Dover.—The mean temperature and the precipitation were above the normal. Two heavy rainfalls occurred. There was a large amount of sunshine. W. C. HARRIS.

Jersey City.—The total wind movement for April was 9,023 miles, and the average hourly velocity 12.5 miles. Three heavy rain-storms occurred during the month. S. K. PEARSON, JR.

Moorestown.—Although the month had two moderately heavy rainfalls, it closed with dry weather prevailing. It was the warmest April since that of 1896. Peach trees were in full bloom on the 30th. JOHN C. BEANS.

Plainfield.—Both the temperature and the precipitation exceeded the normal. From the 4th to the 12th, inclusive, light to heavy rains occurred daily. JOHN NEAGLE.

South Orange.—The rainfall was decidedly above the average for April, for a period of 36 years. The bulk of the precipitation for the month occurred on three days. W. J. CHANDLER.

**COMPARATIVE DATA FOR THE SPRING SEASON.**

The mean temperatures and the total precipitation for the spring months, for the years 1887 to 1905, inclusive, are presented in the following table:

Year.	Mean temperature. (degrees.)	Total precipitation. (inches.)
1887.	49	7.41
1888.	44	13.91
1889.	51	13.20
1890.	50	12.97
1891.	50	10.22
1892.	48	12.28
1893.	48	13.01
1894.	52	12.58
1895.	49	10.89
1896.	50	9.90
1897.	50	12.25
1898.	50	14.07
1899.	50	10.19
1900.	49	10.51
1901.	49	16.55
1902.	51	10.00
1903.	54	9.69
1904.	49	9.45
1905.	50	8.54

The normal temperature for the months of March, April and May is 50°, and the average precipitation is 11.45 inches. The coldest spring, in a period of 19 years, was that of the year 1888, when the mean temperature was 44°, or 6° below the normal. This decided departure from average conditions was produced by abnormally cold weather during March and May, the records showing that the mean temperature for

March was about 6° below the normal and that during May a deficiency of 9° occurred. The temperature for April, of the season mentioned, was practically normal. The warmest spring—mean temperature 54°, or 4° above the normal—was in the year 1903. In the latter year the thermal features of April and May were of the usual order, but during March the weather was exceptionally warm, the excess in mean temperature being 10°. It will be seen that the mean temperature for spring has been above the normal in four, below the normal in eight, and exactly normal in seven of the last 19 years. Fractions of a degree not considered.

The total precipitation for the spring months has varied from a minimum amount of 7.41 inches, in the year 1887, to a maximum amount of 16.55 inches, in the year 1901. In the former year a marked deficiency in rainfall occurred during May, while for March and April the deficiencies were unimportant. In the latter year the months of April and May supplied nearly 12 inches of the total rainfall for the season. In the four last springs, *i. e.*, 1902 to 1905, inclusive, the supply of moisture has diminished from a total of 10 inches in 1902, to a total of 8.54 inches, in 1905, but the character of the current spring has thus far been entirely satisfactory. L. A.

**DELAYED REPORT.**

Vineland, N. J.—March, 1906. Temperature; mean, 31°; departure, -2.8°; highest, 58°, on the 3d; lowest, 16°, on the 24th; greatest daily range, 27°. Total precipitation, 4.9 inches; departure, +1.66 inches; greatest in 24 hours, 8.8 inches; total snowfall, 7.5 inches; days with .01 of an inch or more, 14. Number of clear days, 7; partly cloudy, 14; cloudy, 10. Prevailing wind direction, northwest.

**NOTE.**

Recipients of the New Jersey Section Report that can send their copies for April, 1905, are requested to kindly return them to the Section Center.

**COMPARATIVE DATA FOR APRIL.**

YEAR	TEMPERATURE			AVERAGE PRECIPITATION
	MEAN	HIGHEST	LOWEST	
1887	47.3	87	16	2.70
1888	47.9	92	22	3.28
1889	51.2	83	25	5.32
1890	50.4	86	21	2.65
1891	52.0	88	20	2.19
1892	49.3	87	19	2.49
1893	49.2	82	19	5.21
1894	50.3	88	10	3.09
1895	49.1	89	19	4.88
1896	52.4	98	12	1.35
1897	50.4	89	19	3.79
1898	47.8	81	13	3.74
1899	49.9	88	18	1.78
1900	50.8	82	17	2.29
1901	48.3	89	23	6.31
1902	50.2	93	20	8.62
1903	50.9	92	18	3.97
1904	46.7	85	16	3.42
1905	49.9	84	18	2.88
1906	51.2	87	17	3.64



## Climatological Data for New Jersey, April, 1906.

Stations.	Counties.	Elevation, feet, above sea level.	Length of record years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.				Prevailing direction of wind.	Observers
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from normal.	Greatest in 24 hours.	Total snowfall (unmelted.)	Days with .01 or more.	Number of clear days.	Number partly cloudy days.	Number cloudy days.			
The Highlands and Kittatinny Valley.																					
Layton.....	Sussex.....	550	7	47.2	+0.8	76	19-20	17	2-3	48	4.31	+1.24	1.39	T	9	23	1	6	n.	Warren C. Hursh.	
Sussex.....	Sussex.....	442	12	50.2	+1.3	77	19-20	23	3	42	4.83	+1.79	1.57	T	8	19	6	5	nw.	Prof. W. H. Seeley	
Newton.....	Sussex.....	678	26	49.2	+1.0	78	19-20	23	3	45	4.74	+1.76	1.40	T	8	17	8	5	nw.	Brice Bowman.	
Charlotteburg.....	Passaic.....	719	14	48.0	+1.3	75	19-20	20	2	39	4.37	+0.36	2.05	T	10	20	7	3	w.	G. S. Briggs.	
Pompton Plains.....	Morris.....	111	3	.....	.....	.....	.....	.....	.....	.....	4.75	.....	2.46	0	9	.....	.....	.....	nw.	River & Flood Service.	
Dover.....	Morris.....	575	22	48.4	+1.1	74	19-20	23	2	38	4.66	+1.34	2.17	0	9	4	19	7	.....	William C. Harris.	
Belvidere.....	Warren.....	289	16	51.9	+2.5	81	30	23	2	43	4.66	+1.69	1.45	0	5	19	6	5	.....	Samuel J. Hixson.	
Phillipsburg.....	Warren.....	196	4	51.4	+2.0	79	30	28	3	37	3.84	+0.76	1.20	0	10	17	8	5	nw.	D. W. Smith.	
District Averages.....				49.5	+1.5						4.52	+1.28		T	9	17	8	5			
The Red Sand Stone Plain.																					
Lahwahn.....	Bergen.....	70	15	48.4	+0.5	75	21-30	19	3	47	2.96	-0.54	1.25	0	5	24	2	4	nw.	River & Flood Service.	
River Vale.....	Bergen.....	110	30	53.5	+2.8	80	30	28	3	39	5.49	+2.10	2.52	T	9	10	18	2	nw.	A. C. Holdrum.	
Waterson.....	Passaic.....	135	16	51.0	+2.7	76	30	28	1-3	35	6.42	+3.46	2.35	T	9	17	6	7	nw.	H. A. Probert.	
Englewood.....	Bergen.....	135	16	51.0	+2.7	76	30	28	1-3	35	6.42	+3.46	2.35	T	9	17	6	7	nw.	William C. Tucker.	
Little Falls.....	Passaic.....	111	3	.....	.....	.....	.....	.....	.....	.....	5.35	.....	2.42	0	8	.....	.....	.....	n.	River & Flood Service.	
South Orange.....	Essex.....	200	35	50.8	+2.7	76	30	30	1-3	34	5.29	+2.00	2.50	T	7	15	10	5	nw.	W. J. Chandler, M.D.	
North Plainfield.....	Morris.....	140	14	52.1	+2.5	78	27-30	29	3	34	5.68	+2.10	3.18	0	9	11	14	5	w.	River & Flood Service.	
Lawrenceville.....	Essex.....	314	36	51.7	+3.0	74	30	31	1	29	5.78	+2.43	2.42	T	8	12	11	1	nw.	Prof. G. C. Sonn.	
New York, N. Y.....	New York.....	15	1	52.0	.....	77	30	29	1	35	5.83	.....	2.32	T	9	14	11	5	nw.	U. S. Weather Bureau.	
Jersey City.....	Hudson.....	50	16	51.2	+1.3	78	30	29	1-3	34	5.21	+1.96	1.40	T	10	16	7	7	nw.	Samuel K. Pearson, Jr.	
Bayonne.....	Hudson.....	37	9	51.3	+1.9	78	30	29	3	36	5.91	+1.89	1.52	T	8	12	15	3	sw.	John H. Eadie.	
Bergen Point.....	Union.....	33	27	53.9	+3.2	81	21	30	1	35	4.00	+0.53	.....	0	8	22	4	4	sw.	Dr. W. H. Mitchell.	
Elizabeth.....	Union.....	100	16	51.2	+1.8	78	30	27	1-2	41	4.52	+0.50	2.12	0	9	16	9	5	sw.	W. M. Oliver.	
Overtonville.....	Somerset.....	76	27	51.4	+2.3	81	30	23	3	44	4.34	+1.09	1.68	T	9	13	10	7	nw.	John Neagle.	
Lenington.....	Hunterdon.....	187	9	51.9	+2.1	81	30	26	2	41	3.30	-0.17	1.01	0	8	21	4	5	nw.	Peter Hardcastle.	
New Brunswick.....	Middlesex.....	61	53	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	n.	H. E. Deats.	
College Farm.....	Middlesex.....	100	11	51.6	+1.6	80	30	25	2-3	40	4.38	+0.93	1.29	0	10	19	8	3	n.	Charles V. Meyers.	
Amertville.....	Hunterdon.....	95	20	52.7	+2.3	82	30	25	2-3	41	3.38	+0.03	1.72	T	6	21	5	4	nw.	Miss J. A. Voorhees.	
District Averages.....				51.6	+2.2						4.89	+1.38		T	8	16	9	5		William R. Bowne.	
The Southern Interior.																					
Lightstown.....	Mercer.....	85	15	50.0	.....	77	30	27	1-3	40	4.07	+0.29	2.50	T	8	12	12	6	w.	Ernst Wenger.	
Newton.....	Mercer.....	60	37	53.4	+0.9	80	19	28	1	35	3.84	+0.23	1.30	0	6	9	17	4	sw.	E. R. Cook.	
Daystown.....	Monmouth.....	106	20	53.5	+2.9	82	30	27	1	37	2.67	-0.50	1.52	T	6	15	11	4	nw.	F. C. Price, M.D.	
Skewood.....	Ocean.....	54	6	51.6	.....	82	30	26	1-3	38	3.18	.....	1.31	T	7	24	4	2	s.	C. A. Roe.	
Verly.....	Burlington.....	30	22	52.9	+1.7	82	30	27	1	38	2.85	-0.50	1.18	0	7	11	18	1	w.	C. F. Richardson	
Uncas.....	Burlington.....	68	21	.....	.....	.....	.....	.....	.....	.....	3.20	+0.30	1.92	T	8	16	6	8	nw.	Spencer Haines.	
Down's Mills.....	Burlington.....	71	1	52.6	.....	83	30	22	1	41	.....	.....	.....	.....	.....	19	9	2	w.	F. J. Miller.	
Forestown.....	Burlington.....	71	42	52.4	+2.5	81	30	26	1	40	2.71	-0.38	1.75	0	8	13	8	9	nw.	John C. Beans.	
Philadelphia, Pa.....	Philadelphia.....	117	36	55.5	+4.1	84	30	32	1	30	3.17	+0.25	2.07	0	7	10	13	7	nw.	U. S. Weather Bureau.	
Delaware River.....	Ocean.....	33	15	51.4	+2.5	85	30	24	3	42	2.95	-0.71	1.85	T	5	24	2	4	nw.	S. R. Harris.	
Delaware Mills.....	Burlington.....	76	6	53.2	.....	85	30	24	1	40	2.92	.....	1.94	0	8	13	14	3	nw.	James Armstrong	
Dayton.....	Gloucester.....	126	10	52.8	+2.6	83	30	27	1	40	2.94	-0.44	1.37	0	6	17	8	5	nw.	Wm. T. Farley	
Clarkerton.....	Ocean.....	23	9	51.3	+3.0	79	21	22	3	41	2.15	-1.67	0.65	0	6	13	14	3	sw.	F. R. Austin.	
Lesburg.....	Salem.....	143	14	52.7	+2.6	86	30	25	1	39	2.73	-0.68	1.80	0	7	12	15	3	w.	H. C. Perry.	
Beland.....	Cumberland.....	118	39	52.8	+2.2	86	30	25	1-3	39	2.45	-0.87	1.74	0	8	18	10	2	nw.	Alfred Chalmers.	
Newton.....	Salem.....	24	5	.....	.....	.....	.....	.....	.....	.....	2.18	.....	1.54	0	4	21	7	2	.....	J. H. Maskell.	
Edgeton.....	Cumberland.....	30	20	55.0	+2.4	87	27-30	26	1	43	2.31	-1.36	1.22	0	5	16	4	10	nw.	Henry A. Jorden.	
Basantville.....	Atlantic.....	26	4	.....	.....	.....	.....	.....	.....	.....	2.29	.....	1.11	0	5	22	5	3	.....	L. Van Gilder.	
Godline.....	Cape May.....	43	15	52.0	+2.1	82	30	24	1	35	2.12	-1.39	1.05	0	5	25	1	4	w.	Arthur R. Merrill.	
Cape May C. H.....	Cape May.....	19	19	53.2	+2.8	80	20-27	25	3	34	1.54	-1.84	0.65	0	5	14	10	6	nw.	L. T. Garretson.	
District Averages.....				52.7	+2.4						2.67	-0.61		T	6	16	10	4			
The Sea Coast.																					
Sandy Hook.....	Monmouth.....	14	3	50.2	.....	73	18	30	1	30	3.36	.....	1.09	0	9	14	11	5	w.	Arthur E. Jewell.	
Canic.....	Monmouth.....	16	20	51.8	+0.8	76	21	29	1-3	34	3.11	-0.19	1.84	0	9	12	16	2	nw.	Rev. S. W. Knipe.	
Aurary Park.....	Monmouth.....	22	18	50.9	+1.8	76	21-22	28	1	34	3.00	-0.65	1.39	0	11	12	13	5	w.	B. H. Obert.	
Atlantic City.....	Atlantic.....	53	31	50.4	+3.1	78	21	28	1	24	1.83	-1.22	1.24	0	7	8	12	10	nw.	U. S. Weather Bureau.	
Cape May City.....	Cape May.....	11	13	51.4	+3.2	77	27	31	1-3	28	1.17	-1.98	0.85	0	10	11	16	3	nw.	U. S. Weather Bureau.	
District Averages.....				50.9	+2.2						2.49	-1.01		0	9	11	14	5			

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records for stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus, (a), 1 day, (b), 2 days, etc. † Incomplete. "T", when used, indicates amount too small to measure. ‡ Precipitation data not included in averages.

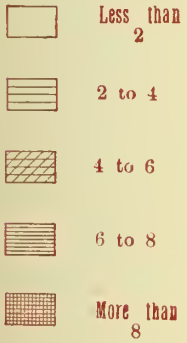


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TOTAL PRECIPITATION, APRIL, 1906.

Scale of Shades—Inches



## Daily Precipitation for New Jersey, April, 1906.

Stations.	Day of month.																															Total.		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
The Highlands & Kittatinny Val.																																		
Layton.....				.02		.22		.08	.49	1.16	.13				1.39								.67							.15		4.31		
Sussex.....				†		.24		.05	.58	1.57	.10	.05			1.13								.93							.18		4.81		
Newton.....				†	†	.27	†	.03	.63	1.24	.06				1.40								.94							.17		4.71		
Charlotteburg.....				.05	.19			.09	*	2.05	.15				1.17							.04	.45							.18		4.31		
Pompton Plains.....				†	.17				.03	2.46	.08			*	1.15	.35							.04	.39						.08		4.71		
Dover.....				.03	.20		.08		2.17	.10	.05				1.12								.82							.09		4.01		
Bevidere.....					.67				1.05	.86	.07				1.45								.49							.07		4.01		
Phillipsburg.....				.02	†	.12	†	.04	1.00	1.17	.01			*	1.20								.22							.06		3.8		
The Red Sand Stone Plain.																																		
Mahwah.....									*	2.60	.11				1.18	.30					*	.14	*	.51						.05		4.8		
River Vale.....									1.25	.60					.55								.38							.18		2.9		
Paterson.....				†	*	.11	*	.02	.49	2.52	.10			*	1.43						†	†	.62							†	.20	5.4		
Englewood.....				.03	.01	.06			2.35	.53					1.63						†	.19	†	1.59						†	.23	6.1		
Little Falls.....				*	.10			.02	†	2.42	.18	†			1.23	.37							.01	.86							.16	5.3		
South Orange.....				†	.09		.05		2.50	.13				†	1.33									.03	.70						.20	5.2		
Chatham.....					* .17				2.50	.12					.65	.90																.15	5.6	
Newark.....				.01	.09		.08		2.90	.28	†				1.23								.01		.93					†	.20	5.7		
New York City, N. Y.....				†	.06	†	.03		2.17	.35	†				1.53							†	.12	†	1.32					†	.18	5.8		
Jersey City.....				†	†	.08		.04	.97	1.35					1.53							†	.06	.13	1.16	†				†	.14	5.2		
Bayonne.....		†		†	†	.07		.05	.86	1.27	.07				1.40							†	.06	.13	1.16	†						.12	5.9	
Bergen Point.....				†	†		†	.18	1.39	1.37	.03				1.52								.07		.85						.28	4.0		
Elizabeth.....					†	.15			*	*	2.15				.50								.07		.85							.01	4.5	
Plainfield.....				.02	†	.09	†	.04	1.15	1.14	†	†			1.33						†		.07	.67						†	.01	4.3		
Somerville.....				.04	.12			.07	.60	1.64	.20				1.25							†		.35							†	.03	4.3	
Flemington.....				*	.06	.12		.05	.75	1.01	.15	†			.99								†		.17						†		3.3	
New Brunswick.....																																		
College Farm.....				.04	.08	*		.04	.72	1.29	.25				1.19									.70	.03						†	.04	4.3	
Lambertville.....				.04	.04				1.72	.15		†			1.27									.16							†		3.8	
The Southern Interior.																																		
Hightstown.....				.05	.09		.05	†	2.50	.06					.96									.34							.02		4.0	
Trenton.....				†	.19				.90	.74					1.30							†		.63							.08		3.6	
Imlaystown.....				.06	.08				1.52	.26					.43									.32									2.6	
Lakewood.....					.08				.68	1.31	.12				.52									.44							.03		3.1	
Beverly.....				†	.06	.08			1.18	.75					.66								†	.11							†	.01	2.6	
Rancocas.....				.03	.05	.07	†		1.30	.62		†			1.00							†		.12								†	.01	3.5
Brown's Mills.....																																		
Moorestown.....				.01	†	.06	†		.92	.83	.02				.79							†	†	†	.07	†					†	.01	2.7	
Philadelphia, Pa.....				†	.03	.02			2.07	.02					1.00							†	†	†	.01	.35					†	.02	3.1	
Toms River.....					.10				1.85						.64										.35							†	2.4	
Indian Mills.....				*	.05				.86	1.08					.68									.15	.05						.05	2.4		
Clayton.....					.11				1.37	.75					.63								†	.06							.02		2.1	
Tuckerton.....				†					.65	.61					.58							.12		.05	.14								2.7	
Friesburg.....					†	.04			* .180						.76							.04		.04	.05						†		2.4	
Vineland.....					*	.03			1.26	.48					.41							.20		.03	.04						†		2.1	
Canton.....					.08				1.54	.01					.55							†		†									2.3	
Bridgeton.....					†				1.22	.65					.34							†		.05	.05								2.3	
Pleasantville.....					†				1.11	.54					.50									.05	.09								2.3	
Woodbine.....					.21				1.05						.55									.21	.10								2.2	
Cape May C. H.....						.03			.65	.63					.16							†		†									1.1	
The Sea Coast.																																		
Sandy Hook.....					†	.04	†	.07	.90	1.09	.01				.67							.06	.08	.44							†		3.1	
Oceanic.....					.02	.03			.58	1.30	.11				.68							.10	.05	.24							†		3.1	
Asbury Park.....				*	.03	.04	.03		.50	1.39	.13				.45									.03	.24	.16					†		1.1	
Atlantic City.....				.03					1.24	†					.45									.01	.06			†						
Cape May City.....				.01	.01		.03	.82	.01						.16							†	.06	.01	.05						.01		1.1	

† Precipitation measured at 8 a. m., 75th meridian time.

\* Precipitation included in that of following day.

† Indicates amount too small to measure.



1.05  
VVS

U. S. DEPARTMENT OF AGRICULTURE.

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REPORT FOR MAY, 1906.

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NEW JERSEY SECTION  
OF THE  
CLIMATOLOGICAL SERVICE  
OF THE  
WEATHER BUREAU.

IN COOPERATION WITH THE  
NEW JERSEY STATE WEATHER SERVICE.

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

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UNDER DIRECTION OF  
WILLIS L. MOORE,  
CHIEF U. S. WEATHER BUREAU,

BY  
LEVI A. JUDKINS,  
SECTION DIRECTOR.



ATLANTIC CITY, N. J.  
WEATHER BUREAU OFFICE.  
JUNE 21, 1906.

MONTHLY MEAN ISOTHERMS AND PREVAILING DIRECTION OF WIND, MAY, 1906.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

L. XIX

ATLANTIC CITY, N. J., MAY, 1906.

No. 5

## GENERAL SUMMARY.

Abrupt and decided temperature changes, a large amount of sunshine and a brief but severe drought were prominent features of the month. As a rule the days were warm, but the nights during a great part of the month were cool. The principal warm periods extended from the 16th to the 19th, inclusive, and from the 24th to the 27th, inclusive. On the 18th and 19th the maximum temperatures ranged from 86° to 94°, and from the 24th to the 27th they were above 80° at most stations. A well-defined cool period extended from the 8th to the 11th, inclusive, the minimum temperatures on the 11th ranging from 24° to 39° over the northern half of the State, and from 31° to 41° in the Southern Interior and Sea Coast districts. Minimum temperatures were also unseasonably low during the first and the latter parts of the third decade. Widespread, destructive frosts occurred on the 11th, and light frosts formed in exposed localities in the north on the 21st and 24th.

The precipitation for the State as a whole was slightly above normal, but the distribution throughout the month was unfavorable. During the first half of the month light showers of frequent occurrence over the northern half of the State, and the first decade in the southern districts was showery. The soil, however, became very dry, and drought generally prevailed from about the 12th until the few last days, when copious rains, that at many stations formed the bulk of the precipitation for the month, fell, and effectually relieved the situation. The rainfall, from the 27th to the 29th, inclusive, was heavy practically in all districts, and at Canton, Salem County, and Charlotteburg, Passaic County, excessive amounts of 3.76 and 3.22 inches, respectively, occurred on the 28th. The total precipitation for the month exceeded 5 inches in portions of Bergen, Mercer, Monmouth, Passaic, Salem, Somerset, Sussex and Union counties, where the positive departure from the normal at individual stations ranged from 0.95 of an inch to about 1.75 inches. Over the extreme southern portion of Ocean County, and in portions of Burlington and Gloucester counties, the monthly totals were less than 3 inches, with deficiencies at individual stations ranging from 0.30 of an inch to about 1.50 inches.

A large number (124) of thunderstorms was reported during the month. A local storm of damaging character oc-

curred on the 18th in the vicinity of Somerville, Somerset County, and late in the afternoon on the 31st a heavy hail, rain and windstorm swept over portions of Atlantic County. At Atlantic City hail-stones, averaging from three-fourths of an inch to 1 inch in diameter, fell for a period of 10 minutes, and an unusually heavy downpour of rain occurred, the amount for 5 minutes being 0.83 of an inch, and for 10 minutes 1.19 inches. The storm in some sections of the city was attended by violent wind-gusts that uprooted trees and unroofed several small houses.

## TEMPERATURE.

The monthly mean, 61.0°, was 0.6° above the normal, and 0.4° below the mean for the corresponding month of 1905.

The means for the various districts were as follows: The Highlands and Kittatinny Valley, 59.8°; Red Sand Stone Plain, 61.7°; Southern Interior, 62.6°; Sea Coast, 59.9°.

The highest monthly mean was 64.9°, at Bridgeton, and the lowest, 57.7°, at Layton.

The absolute maximum was 94°, at Belvidere, Flemington, Indian Mills, and Paterson, on the 18th, and at Brown's Mills, on the 19th, and the absolute minimum, 24°, at Layton, on the 11th.

The absolute range for the State was 70°.

The greatest local monthly range was 65°, at Layton, River Vale, and Somerville, and the least, 43°, at Cape May City.

The greatest daily range was 45°, at Brown's Mills, on the 24th, and at Lakewood, on the 16th.

## PRECIPITATION.

The average, 4.21 inches, was 0.38 of an inch above the normal, and 2.50 inches above the average for the corresponding month of 1905.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 4.83 inches; Red Sand Stone Plain, 4.49 inches; Southern Interior, 3.76 inches; Sea Coast, 3.76 inches.

The greatest monthly amount was 6.28 inches, at Canton, and the least, 2.37 inches, at Clayton.

The greatest amount in any 24 consecutive hours was 3.76 inches, at Canton, on the 28th.

The average number of days with a measurable amount was 10.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 16; partly cloudy, 8; cloudy, 7. At Atlantic City the amount of sunshine was 73 per cent of the possible amount.

## WIND.

The prevailing direction was southwest. Maximum velocities (for five-minute periods), for the month, were recorded as follows: Atlantic City, 27 miles per hour, from the northeast, on the 29th; Jersey City, 42 miles per hour, from the northwest, on the 3d.

## MISCELLANEOUS PHENOMENA.

*Thunderstorms.*—On the 1st at 1 station; 2d, 15 stations; 3d, 6 stations; 5th, 20 stations; 6th, 4 stations; 7th, 1 station; 11th, 8 stations; 16th, 3 stations; 17th, 17 stations; 18th, 14 stations; 27th, 15 stations; 28th, 4 stations; 29th, 1 station; 31st, 11 stations. At Weather Bureau stations thunderstorms

occurred as follows: Atlantic City, 17th, 31st; Cape May City, 6th, 31st. Total number of thunderstorms reported, 124.

*Fog*.—Asbury Park, 27th; Atlantic City, 6th, 27th; Bayonne, 12th; Beverly, 5th, 12th, 24th; Clayton, Hightstown, Indian Mills, Jersey City, 5th; Lambertville, 4th, 5th, 12th; Layton, Moorestown, Phillipsburg, 12th; Sandy Hook, 5th, 12th, 17th; Somerville, 5th, 31st; Trenton, 5th, 12th; Tuckerton, 27th; Vineland, 6th.

*Hail*.—Somerville, 2d; Trenton, 5th; Atlantic City, 31st.

*Halos, lunar*.—Asbury Park, 1st; Jersey City, 3d; Moorestown, Rancocas, 1st; Sandy Hook, 1st, 2d, 3d.

*Halos, solar*.—Atlantic City, 1st; Indian Mills, 2d; Jersey City, 12th; Layton, 30th; Rancocas, 3d.

*Lightning*.—Beverly, 2d, 17th; Rancocas, 17th, 18th.

*Rainbows*.—Asbury Park, 10th; Beverly, 2d; Flemington, Indian Mills, 11th; Jersey City, 5th; Rancocas, 2d; Sandy Hook, 5th.

*Sleet*.—Dover, 10th.

### CLIMATOLOGY OF SUSSEX, N. J.

The town of Sussex is situated in the northeastern part of Sussex County, in the physical division of the State known as the Highlands and Kittatinny Valley, latitude  $41^{\circ}$ ,  $12'$ , N., and longitude  $74^{\circ}$ ,  $36'$ , W. The surrounding country is generally mountainous. The elevation of the ground above sea-level, in the vicinity of the station, is about 492 feet. Sussex is the northernmost county of New Jersey and the fifth largest, its area being 535 square miles. It is well watered by numerous streams and there are many small lakes and ponds within its borders. Agriculture, dairying, stock-raising and fruit-growing are the leading industries.

Meteorological records at Sussex date from January, 1895, when Prof. W. H. Seeley, the present observer, began taking the daily observations, and the series, to date, is unbroken. The length of the record, together with its continuity, gives valuable normals of temperature, precipitation, etc., and practically establishes the climatology of the station and its immediate neighborhood. From January, 1895, until June, 1901, inclusive, the records were published under the name of Deckertown. Since the latter-named date the station has been known as Sussex, but there has been no change in the location of the instruments. The maximum and minimum thermometers are of standard pattern. They are inclosed in a thermometer shelter of approved construction, and the latter has an unobstructed exposure, over sod, the height of the floor above the ground being 4 feet. The rain gage is located on the ground, and is distant about 25 feet from the nearest high objects. The daily observation is taken at or near sunset. The temperature extremes at Sussex, for a period of about eleven and one-half years, are presented in the following table:

#### TEMPERATURE EXTREMES.

	ABSOLUTE MAXIMUM.	YEAR.	ABSOLUTE MINIMUM	YEAR.	HIGHEST MONTHLY MEAN.	YEAR.	LOWEST MONTHLY MEAN.	YEAR.
January.....	67	1906	-22	1904	33.9	1906	18.0	1904
February.....	61	1903	-17	1899	30.4	1903	19.4	1905
March.....	86	1905	-9	1900	45.9	1903	30.2	1896
April.....	91	1896	17	1898	51.9	1896	45.6	1904
May.....	94	1895	28	1903	64.1	1896	58.6	1898
June.....	96	1895	39	1896	72.0	1895	62.4	1903
July.....	100	1901	44	1899	76.4	1901	69.0	1895
August.....	98	1900	40	1895	74.7	1900	65.0	1903
September.....	97	1895	29	1904	67.8	1900	61.8	1899
October.....	89	1897	20	1904	58.6	1900	47.9	1895
November.....	73	1903	9	1903	46.2	1902	35.5	1901
December.....	69	1895	-10	1896	34.0	1905	23.2	1904
a, also 1901.    b, also 1903.    c, also 1900.								

The mean annual temperature is  $49.5^{\circ}$ . The average temperatures for the several seasons are as follows: Spring,  $48.7^{\circ}$ ;

Summer,  $69.8^{\circ}$ ; Autumn,  $52.6^{\circ}$ ; Winter,  $27.0^{\circ}$ . The normal monthly temperatures are: January,  $26.0^{\circ}$ ; February,  $25.4^{\circ}$ ; March,  $36.5^{\circ}$ ; April,  $48.9^{\circ}$ ; May,  $60.6^{\circ}$ ; June,  $67.4^{\circ}$ ; July,  $72.3^{\circ}$ ; August,  $69.8^{\circ}$ ; September,  $63.9^{\circ}$ ; October,  $52.7^{\circ}$ ; November,  $41.1^{\circ}$ ; December,  $29.5^{\circ}$ . The normal temperatures for January, April, August, and October are practically coincident with those for winter, spring, summer, and autumn, respectively. The greatest contrasts in monthly mean temperatures occur passing from March to April, from April to May, from September to October, from October to November, and from November to December. The increase in the normals, from March to May, inclusive, is about  $12^{\circ}$ , monthly, and the average monthly decrease, from September to December, inclusive, is  $11.5^{\circ}$ . July is usually the warmest month of the year, mean temperature  $72.3^{\circ}$ —but in the year 1895 June was the warmest month. January and February, with average temperatures of  $26.0^{\circ}$  and  $25.4^{\circ}$ , respectively, are the coldest months, although in the year 1903 December was colder than January and February, and March of the current year was much colder than January. The coldest winter on record is that of 1903-4, when the mean temperature was  $21.1^{\circ}$ , or  $5.9^{\circ}$  below the normal. The warmest winter (1905-6) had an average temperature of  $31.6^{\circ}$ , or  $4.6^{\circ}$  above the normal. The absolute maximum temperature for Sussex is  $100^{\circ}$ —July 1 and 2, 1901. On July 3, 1898, a maximum value of  $99^{\circ}$  was recorded. The absolute minimum temperature is  $-22^{\circ}$ , for January 5, 1904. With one exception (February, 1901), temperatures of zero or lower, have occurred in January and February of all years and occasionally in March and December. Temperatures below  $32^{\circ}$  have always been observed in the months of April, October and November, frequently in May, and sometimes in September. The average length of the growing season is 120 days, the average date of the last killing frost, in spring, being May 2, and the first killing frost, in autumn, October 6. The date on which the earliest killing frost occurred in autumn was September 15—year 1895, and the date on which the latest killing frost occurred in spring is May 17—year 1895. In 1895 the length of the growing season was but 120 days, while in the following year it extended from April 11 to October 9, a period of 180 days.

(To be concluded.)

### COMPARATIVE DATA FOR MAY.

YEAR	TEMPERATURE			AVERAGE PRECIPITATION
	MEAN	HIGHEST	LOWEST	
1887	63.3	94	35	1.37
1888	52.4	91	26	4.92
1889	62.3	94	32	4.09
1890	60.7	87	33	4.24
1891	59.5	93	24	2.97
1892	60.1	90	30	5.04
1893	59.4	95	29	4.07
1894	61.4	93	30	7.72
1895	60.9	102	28	2.85
1896	65.3	98	29	3.21
1897	60.6	87	29	5.68
1898	58.5	93	29	7.00
1899	61.1	94	29	1.92
1900	60.9	98	26	4.71
1901	58.6	90	29	5.60
1902	60.3	95	29	2.04
1903	62.7	98	21	0.59
1904	62.8	97	31	2.60
1905	61.4	89	22	1.71
1906	61.0	94	24	4.21



## Climatological Data for New Jersey, May, 1906.

Stations.	Counties	Elevation, feet, above sea level.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.				Prevailing direction of wind.	Observers
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from normal.	Greatest in 24 hours.	Total snowfall (unmelted). <sup>1</sup>	Days with .01 or more.	Number of clear days.	Number partly cloudy days.	Number cloudy days.			
Highlands and Kittatinny Valley.																					
on.	Sussex.	550	7	57.7	-1.0	89	18	24	11	43	4.35	+1.94	1.26	0	12	24	4	3	sw.	Warren C. Hursh.	
on.	(B).	412	12	60.0	-0.6	92	18	29	11	41	5.43	+1.66	1.60	0	13	16	11	4	w.	Prof. W. H. Seeley	
on.	Sussex	578	26	59.6	-0.1	91	18	30	11	42	5.97	+1.83	1.79	0	17	18	6	7	sw.	Brice Bowman.	
ottetburg.	Passaic	719	14	58.4	+0.7	90	18	30	11	41	5.79	+1.57	3.22	0	11	18	8	5	sw.	G. S. Briggs.	
ton Plains.	Morris	575	22	58.6	-0.2	90	18	31	11	38	4.55	+0.32	1.65	0	10	6	18	7	nw.	River & Flood Service.	
ere	Morris	289	16	62.0	+0.9	94	18	31	11	39	3.86	-0.24	1.57	0	8	23	1	7	.....	William C. Harris.	
psburg.	Warren	196	4	62.2	+1.2	93	18	35	11	39	4.43	+0.26	1.89	0	11	17	6	8	w.	Sammel J. Hixson.	
istrict Averages.				59.8	+0.3						4.83	+0.90			11	17	8	6		D. W. Smith.	
The Red Sand Stone Plain.																					
ah.	Bergen	70	3	58.9	-0.5	90	18	25	11	41	5.13	.....	1.99	0	12	..	..	..	se.	River & Flood Service.	
on.	Bergen	110	30	63.3	+1.6	94	18	34	11	39	3.73	-0.72	0.88	T	14	9	17	5	sw.	A. C. Holdrum.	
wood.	Bergen	135	16	60.4	-0.1	89	18	34	11	35	4.74	+0.93	1.98	0	12	15	5	11	sw.	H. A. Probert.	
Falls.	Passaic.	200	3	60.4	.....	88	18	36	11	35	3.77	.....	1.35	0	13	..	..	..	nw.	William C. Tucker.	
Orange.	Essex.	200	35	60.4	0.0	88	18	36	11	35	4.22	+0.73	1.48	0	8	16	9	6	w.	River & Flood Service.	
am.	Morris.	140	14	62.4	+1.3	91	18	39	10-11	38	3.77	-0.20	1.77	0	12	13	12	6	nw.	W. J. Chandler, M.D.	
rk.	Essex.	314	36	61.8	+1.9	86	18	40	11	30	4.67	+1.52	2.50	0	12	15	7	9	sw.	River & Flood Service.	
ork, N. Y.	New York.	15	1	62.7	.....	90	18-19	38	11	33	4.48	.....	2.16	T	13	16	6	9	sw.	W. E. Stearns.	
y City.	Hudson.	50	16	61.5	+0.2	90	18	38	11	36	4.99	+1.76	1.79	0	15	16	6	9	sw.	U. S. Weather Bureau.	
me.	Hudson.	37	9	61.0	-0.3	88	18	34	11	36	5.24	+1.73	1.91	0	10	7	18	6	sw.	Samuel K. Pearson, Jr.	
n Point.	Union.	33	27	64.1	+1.8	91	18	35	11	35	4.87	+1.07	.....	0	11	19	3	9	sw.	John H. Eadie.	
eth.	Union.	100	16	61.0	+0.3	90	18	30	11	41	5.51	+1.46	2.16	0	13	9	16	6	se.	Dr. W. H. Mitchell.	
eld.	Somerset.	76	27	61.9	+1.0	93	18	28	11	40	5.01	+0.95	1.32	0	12	20	0	11	sw.	W. M. Oliver.	
ville.	Hunterdon.	187	9	62.2	+0.7	94	18	34	11	40	3.95	+0.48	1.19	0	10	18	6	7	sw.	John Neagle.	
ington.	Middlesex.	61	53	.....	-0.3	90	18	32	11	40	4.75	+1.03	1.68	0	10	19	8	4	sw.	Peter Harcastle	
Brunswick.	Middlesex.	100	11	61.6	-0.3	90	18	32	11	40	4.75	+1.03	1.68	0	10	19	8	4	sw.	H. E. Deats.	
e Farm.	Hunterdon.	95	20	62.8	+0.9	92	18	35	11	37	3.78	-0.54	1.50	0	9	22	5	4	sw.	Charles V. Meyers.	
rtville.	Hunterdon.	...	...	...	.....	90	18	32	11	40	4.75	+1.03	1.68	0	10	19	8	4	sw.	Miss J. A. Voorhees.	
istrict Averages.				61.7	+0.7						4.49	+0.64			12	15	8	8		William R. Bowne.	
The Southern Interior.																					
town.	Mercer.	85	15	60.6	-1.5	90	18	31	11	41	3.90	-0.74	1.68	0	11	21	3	7	sw.	Ernst Wenger.	
n.	Mercer.	60	37	62.6	-0.5	88	18	36	10	34	5.08	+1.16	1.30	T	8	6	19	6	sw.	E. R. Cook.	
town.	Monmouth.	106	20	61.0	.....	91	18	36	11	35	4.37	+0.22	2.01	0	10	17	9	5	sw.	F. C. Price, M.D.	
ood.	Ocean.	54	6	62.4	.....	91	18	36	11	45	3.55	.....	0.98	0	9	24	4	3	sw.	C. A. Roe.	
y.	Burlington.	30	22	63.4	+1.1	93	18	35	11	38	3.56	-0.50	1.32	0	11	13	11	7	sw.	C. F. Richardson	
as.	Burlington.	68	21	61.9	.....	93	19	39	10-11	41	3.41	-0.84	1.68	T	11	16	6	9	nw.	Spencer Haines.	
y's Mills.	Burlington.	71	1	61.9	.....	94	19	30	11	45	4.39	.....	1.07	0	8	16	11	4	sw.	F. J. Miller.	
stown.	Burlington.	71	42	62.1	+0.9	90	18	35	11	37	2.66	-1.52	1.61	0	11	16	7	8	s.	John C. Beams.	
elphia, Pa.	Philadelphia.	117	36	64.0	+1.5	93	18	40	10	29	4.43	+1.28	1.72	0	10	12	11	8	sw.	U. S. Weather Bureau.	
n River.	Ocean	33	15	.....	.....	91	18	35	11	44	3.35	.....	1.84	0	11	19	7	5	.....	S. R. Harris.	
n Mills.	Burlington.	76	6	63.6	+0.6	91	18	35	11	44	3.35	.....	1.84	0	11	19	7	5	sw.	James Armstrong.	
n.	Gloucester.	126	10	62.6	+0.7	91	18	35	11	37	2.37	-0.53	0.77	0	9	20	6	5	sw.	Wm. T. Farley	
ton.	Ocean.	23	9	61.4	+1.3	92	19	35	10	38	2.86	-0.30	0.82	0	10	16	9	6	sw.	F. R. Austin.	
urg.	Salem.	143	14	63.2	+1.2	93	18	34	11	41	4.12	+0.74	1.96	0	9	14	14	3	w.	H. C. Perry.	
end.	Cumberland.	118	30	62.9	+0.7	93	18	34	11	41	3.55	-0.15	1.01	0	11	16	13	2	sw.	Alfred Chalmers.	
nt.	Salem.	24	5	.....	.....	93	18	36	10-11	38	3.15	-0.99	0.90	0	9	21	3	7	sw.	J. H. Maskell.	
ton.	Cumberland.	30	20	64.9	+0.3	93	18	36	10-11	38	3.15	-0.99	0.90	0	9	21	3	7	sw.	Henry A. Jordan.	
atville.	Atlantic.	26	4	.....	.....	93	18	36	11	36	3.29	.....	1.10	0	9	24	3	4	.....	L. Van Gilder.	
ine.	Cape May.	43	15	62.6	+1.9	92	19	32	11	36	3.51	-0.41	2.31	0	6	24	3	4	w.	Arthur R. Merrill.	
ay C. H.	Cape May.	19	19	62.6	+1.9	89	19	39	11	31	3.52	0.0	1.14	0	6	17	9	5	s.	L. T. Garretson.	
istrict Averages.				62.6	+0.8						3.76	-0.18			9	17	8	6			
The Sea Coast.																					
Hook.	Monmouth.	14	3	60.4	.....	88	18	41	11	34	3.83	.....	0.91	0	13	10	12	9	w.	Arthur E. Jewell.	
on Park.	Monmouth.	16	20	61.0	-0.2	86	18-19	37	11	36	2.96	-1.29	0.65	0	10	19	7	5	sw.	Rev. S. W. Kuipe.	
atic City.	Monmouth.	22	18	59.3	-0.1	89	19	37	10	36	5.11	+1.08	2.00	0	8	19	7	5	se.	B. H. Obert.	
ay City.	Atlantic.	16	31	59.0	+1.4	91	19	37	10	29	3.56	+0.62	1.38	0	10	11	11	9	sw.	U. S. Weather Bureau	
	Cape May.	11	13	59.8	+0.3	86	19	43	10	26	3.32	+0.15	1.93	0	6	12	14	5	s.	U. S. Weather Bureau.	
istrict Averages.				59.9	+0.4						3.76	+0.14			9	14	10	7			

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records of stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus, (a), 1 day, (b), 2 days, etc. "T", when used, indicates amount too small to measure. # Precipitation data not included in averages.



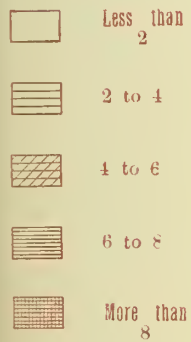
Maximum and Minimum Temperatures for New Jersey, May, 1906.

[illegible]



# TOTAL PRECIPITATION, MAY, 1906

Scale of Shades—Inches



## Daily Precipitation for New Jersey, May, 1906.

Stations.	Day of month.																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
The Highlands & Kittatinny Val.																																	
Layton.....		.15			.10	.17		.30			.02			.44			.32	.75										.45	1.26	.34		.05	
Sussex.....		.17			.02	.04			.54	.05	.08	.04		.66			.08	.10										1.50	1.60	.55		†	
Newton.....		.03	.10		.04	.04	.30	.02	.40	.05	.08	.07		.43			.04	1.05									.22	1.79	.63		†		
Charlottesville.....			.31			*	.39		.84	.08				.61			.09	.17									*	3.22				.08	
Pompton Plains.....		†	.10		*	.48	.33		.07	.25				.15	.30		.03	.15									*	1.39	1.00		†		
Dover.....		.11				.03			.35	.04	.05			.44				.24										1.65	1.55			.05	
Belvidere.....			.33				.23		.35					.28				.15										.85	1.57	.60		†	
Phillipsburg.....		.11	.04		.37	.04	.17		.27		.03			.17	†			.23										.60	1.89	.51		†	
The Red Sand Stone Plain.																																	
Mahwah.....		*	.12			*	.32	.22		.09	.30	.10		.10	.51		*	.44										*	1.99	.94			
River Vale.....		.18			.14	.10			.48	.15				.36			.10	.25										.38	1.85	.30			
Paterson.....		.06	.05		.37	.04	.22		.37	†	†	.01		.52			.01	.20										.39	.88	.57		.04	
Englewood.....		.03			.09	.08	.26		.31	†	.11			.27				.11									1.98	1.29	.19			.02	
Little Falls.....		.01	.13		*	.03	.30		.11	.24	†	.05		.27	.23		*	.21									*	.80	1.35			.04	
South Orange.....		.15				.30			.32		†	.06		.37			.39											1.48	1.15			†	
Chatham.....		.04	.27			*	.35		.09	.20	*	.09		.20	.15			.13										*	.90	1.49		.02	
Newark.....					†	.20	.08		.24	†	.05	.01		.30			.42	.23										1.77	.19	.20		†	
New York City, N. Y.....		.04			.08	.06	.21		.23	†	.15			.30			†	.10										1.94	1.37	.17		.02	
Jersey City.....		.02	.02		.19	.03	.27	†	.24	†	.15	.02		.35			†	.06										1.93	.61	.57		.02	
Bayonne.....		.06	.14		.11	.04	.28		.25	†	.05	.02		.25	†		.11	.16										1.79	1.12	.59		.02	
Bergen Point.....		.06	.32		†	†	†		.75	†	†			.21			.19	.29										1.91	.92	.56		.03	
Elizabeth.....		.30			.27	*	.39		.25					.30			*	.61									*	*	2.75				
Plainfield.....		.09	.46		†	.15	.18		.35	.01	.01	†		.21			†	.14										1.50	1.67	.70		.04	
Somerville.....		.10	.30			.12	.24		.43	.01	†			.20			†	.51										.91	1.32	.85		.01	
Flemington.....		.07			*	.29	.32		.32	.02	†			.12	†			.10										.85	1.19	.67		†	
New Brunswick.....																																	
College Farm.....		.03	.08			.07	.39		.32					.08				.30											.82	1.68	.98		
Lambertville.....		.05			.50	.10	.37		.31		†			.03															.87	1.50			.05
The Southern Interior.																																	
Hightstown.....			.05		1.00	*	.63		.25		.03			.62				.24										*	*	1.68			
Trenton.....		.21			1.30	.21	†		.32	†	†			†				.16										1.04	1.30			.54	
Imlaystown.....																																	
Lakewood.....			.23			.26	.66		.12		.08							.20										.12	.98	.90			
Beverly.....		.01	.21		†	.14	.22		.32	†	.04			.02				†										.52	1.32	.46		.30	
Rancocas.....		.28			.37	.30	.18		.30	†	.10			†			†	.05										.12	1.43	.25		.03	
Brown's Mills.....					1.07		.60		.40		.01																	.30	1.01	.94		.06	
Moorestown.....		.01	.23		.01	.08	.28		.27	†				.01				†										.14	1.19	.42		.02	
Philadelphia, Pa.....		.17			.77	.04	.18		.24	†	†			.06	†		†											1.19	1.66	.08		.04	
Toms River.....																																	
Indian Mills.....		*	.12		*	.32	.64		.28		.05			†														.07	1.00	.81		.01	
Clayton.....		.12				.11	.45		.32		†			†				.04										.14	.77	.37		.05	
Tuckerton.....		.12	.05		.28	.17	.82		.03									.12											.76	.48		.03	
Friesburg.....		.20	.07		*	.58			.43		†			†														.20	1.06	.19		.49	
Vineland.....		.35	.10		.14	*	.48		.04		†							.13										.15	1.01	.45		.70	
Canton.....		.32			.15		.34		.34		†																	†	3.76			1.37	
Bridgeton.....		.26			.18	*	.45		.27					†														.20	.90	.19		.70	
Pleasantville.....		.12			.16	*	1.10		.02								.02												.50	.42		.95	
Woodbine.....		.07				*	1.03																						*			.10	
Cape May C. H.....			.03			.44	.93																						.31	1.14			.67
The Sea Coast.																																	
Sandy Hook.....		†	.42		.12	.06	.40		.23		.05			.02		.05	.22	.20										.35	.91	.80			
Oceanic.....		†	.12		†	.23	.43		.08					.05			.12	.30											.48	.50	.65		†
Asbury Park.....		†	.07			.19	.67		.10	†	†			†			*	.57										†	2.00	1.51		†	
Atlantic City.....		.14	.03		.04	.52	.61		.03		.02			†			†											†	†	.77	.02		1.38
Cape May City.....		†			1.03	.59		.01			†						†												.34	.80			.55

† Precipitation measured at 8 a. m., 75th meridian time.

\* Precipitation included in that of following day.

+ Indicates amount too small to measure



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U. S. DEPARTMENT OF AGRICULTURE.

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REPORT FOR JUNE, 1906.

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NEW JERSEY SECTION  
OF THE  
CLIMATOLOGICAL SERVICE  
OF THE  
WEATHER BUREAU.

IN COOPERATION WITH THE  
NEW JERSEY STATE WEATHER SERVICE.

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE.

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UNDER DIRECTION OF  
WILLIS L. MOORE,  
CHIEF U. S. WEATHER BUREAU,

BY  
LEVI A. JUDKINS,

SECTION DIRECTOR.



ATLANTIC CITY, N. J.  
WEATHER BUREAU OFFICE.  
JULY 19, 1906.

MONTHLY MEAN ISOTHERMS AND PREVAILING DIRECTION OF WIND, JUNE, 1906.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

L. XIX.

ATLANTIC CITY, N. J., JUNE, 1906.

No. 6.

## GENERAL SUMMARY.

The average temperature for June, 1906, was about  $1^{\circ}$  above normal, the departures at individual stations ranging from  $-1.1^{\circ}$ , at Oceanic, to  $+3.3^{\circ}$ , at Indian Mills. The departures from the normal were the greatest in the Highlands and Kittatinny Valley section, where an average excess in daily mean temperature of  $1.8^{\circ}$  occurred, and were least in the sea-coast district, where the average excess was  $0.8^{\circ}$ . With few exceptions the day temperatures during the first decade were high, although several cool nights occurred during this period, especially in the extreme northern counties, where, on the 3d and 4th, the minimum temperatures at a few stations were slightly below  $50^{\circ}$ . During the second decade the temperature was variable—there were several warm days, but most of the nights were moderately cool. In the northern interior the minimum temperatures from the 12th to the 14th, inclusive, were low for the season, an extreme minimum of  $38^{\circ}$  being recorded at Layton, on the 12th. The third decade became prominent by reason of the brief, but severe, warm wave that prevailed from the 28th to the 30th, inclusive, during which period the temperature rose above  $90^{\circ}$  at most stations, and reached an extreme maximum of  $98^{\circ}$  at Tuckerton, with  $97^{\circ}$  recorded at Bridgeton and Indian Mills,  $96^{\circ}$  at Atlantic City, Milbeth and Vineland, and  $95^{\circ}$  at Brown's Mills, Flemington, Friesburg, Jersey City and Rancocas. Warm, oppressive nights were also a marked feature at the close of the month, the minimum temperatures at many stations being above  $70^{\circ}$  during the night of the 29th-30th.

Over more than three-fourths of the State the rainfall was in excess of the June average. In Cape May County, the extreme western portion of Burlington County, and the extreme eastern part of Mercer County the local departures ranged from  $+2.24$  to  $+4.73$  inches, the latter departure occurring at Rancocas, Burlington County. In Atlantic, Bergen and Hudson counties, the southern part of Ocean County, the northern part of Sussex, and parts of Hunterdon and Passaic counties the precipitation was below the normal, the most marked departure ( $-2.59$  inches) occurring at Tuckerton, Ocean County. A great part of the first decade was showery. The period from the 11th to the 15th, inclusive, was generally fair, with the exception of scattered showers on the 11th. The 16th

marked the beginning of a period of general rains which continued without material interruption until the 24th, the rainfall from the 16th to the 19th, inclusive, being unusually heavy in many localities, particularly in the counties bordering upon the Delaware River. Generally fair weather prevailed from the 25th to the 28th, inclusive, but the two last days of the month were showery. Much of the precipitation of the month was in the form of showers and thunderstorms, and an irregular distribution resulted. In portions of Burlington, Hunterdon, Morris and Ocean counties the total rainfall ranged from 6.03 to 9.18 inches, while in portions of Atlantic, Bergen and Hudson counties, and over the extreme southern portion of Ocean County, less than 2.50 inches fell.

Damaging local-storms were of frequent occurrence during the month. At Sandy Hook, in the afternoon of the 23d, a whirlwind, arising from the joining of two thunderstorms, swept across Sandy Hook Bay, from west to east, attended by a wave of water of the height of about 6 feet. Three small vessels, two of which were at anchor, were capsized. In its passage across the "Hook", to the ocean, the whirlwind swept a path averaging in width 150 feet, and many trees were uprooted. Hail-stones that measured about 2 inches in diameter and weighed from 2 to 4 ounces, fell for a period of 15 minutes. At Camden, on the 23d, the overturning of buildings by a violent wind-storm caused the death of several persons. At Bayonne, on the 10th, the local hospital building sustained considerable damage by a high wind. On the 23d a noteworthy hailstorm occurred over the central portion of New Jersey. The storm, as far as can be known, entered the State from southeastern Pennsylvania, over the western part of Mercer County and moved in a northeasterly direction to Jersey City and Sandy Hook, on the east, touching the interior of Somerset and Union counties on the north, and the northern part of Ocean County (Lakewood) on the south. At Imlaystown the storm was destructive over a large area; at Somerville the fall of hail lasted for about one hour; at Plainfield the stones measured the size of a walnut. At Perth Amboy the storm was unusually heavy and destructive; green-houses and skylights were wrecked, window-glass on the northerly side of nearly every building in the city was broken, trees were stripped of their foliage and horses were stampeded. The hail-stones averaged from 1.5 inches to 2.5 inches in diameter, and in shape were, as a rule, almost perfectly spherical. Sixteen of the stones, gathered at random, weighed 2 pounds, and placed in contact in a row measured 32 inches in length.

## TEMPERATURE.

The monthly mean,  $70.4^{\circ}$ , was  $1.3^{\circ}$  above the normal, and  $2.1^{\circ}$  above the mean for the corresponding month of 1905.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $69.2^{\circ}$ ; Red Sand Stone Plain,  $71.0^{\circ}$ ; Southern Interior,  $71.8^{\circ}$ ; Sea Coast,  $69.4^{\circ}$ .

The highest monthly mean was  $73.8^{\circ}$ , at Bridgeton, and the lowest,  $67.2^{\circ}$ , at Charlotteburg.

The absolute maximum was  $98^{\circ}$ , at Tuckerton, on the 30th, and the absolute minimum,  $38^{\circ}$ , at Layton, on the 12th.

The absolute range for the State was 60°.

The greatest local monthly range was 51°, at Layton and Brown's Mills, and the least, 34°, at Cape May.

The greatest daily range was 40°, at Charlotteburg and River Vale, on the 14th.

### PRECIPITATION.

The average, 4.48 inches, was .86 of an inch above the normal, and 1.05 inches above the average for the corresponding month of 1905.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 4.92 inches; Red Sand Stone Plain, 3.39 inches; Southern Interior, 5.34 inches; Sea Coast, 4.28 inches.

The greatest monthly amount was 9.18 inches, at Pompton Plains, and the least, 1.45 inches, at Jersey City.

The greatest amount in any 24 consecutive hours was 6.68 inches, at Pompton Plains, on the 16th-17th.

The average number of days with a measurable amount was 12.

Excessive precipitation (2.50 inches, or more, in any 24 consecutive hours) occurred as follows: Bridgeton, 17th, 2.69 inches; Canton, 17th, 2.94 inches; Hightstown, 16th, 2.96 inches; Moorestown, 16th, 4.25 inches; Pompton Plains, 16th-17th, 6.68 inches; Rancocas, 16th-17th, 4.32 inches.

### SUNSHINE AND CLOUDINESS.

The average number of clear days was 11; partly cloudy, 11; cloudy, 8. At Atlantic City the amount of sunshine was 55 per cent of the possible amount.

### WIND.

The prevailing direction was southwest. Maximum velocities (for five-minute periods), for the month, were recorded as follows: Atlantic City, 20 miles per hour, from the east, on the 19th; Jersey City, 50 miles per hour, from the northwest, on the 10th; Sandy Hook, 60 miles per hour, from the northwest, on the 2d, and 60 miles per hour, from the west, on the 30th.

### MISCELLANEOUS PHENOMENA.

*Fog.*—Asbury Park, 8th, 9th, 16th, 17th; Atlantic City, 2d, 8th, 16th, 17th, 21st; Bergen Point, 17th, 18th, 19th; Beverly, 1st; Canton, 8th, 9th; Cape May, 2d, 7th, 8th, 9th, 15th, 16th, 17th, 20th, 22d; Hightstown, 1st, 9th, 17th; Indian Mills, 9th, 21st; Jersey City, 8th, 9th; Moorestown, 1st, 9th; Oceanic, 8th, 16th, 18th, 21st; Phillipsburg, 1st, 20th, 27th; Plainfield, 8th, 17th, 18th; Rancocas, 9th; Sandy Hook, 1st, 8th, 16th, 17th, 18th, 21st; Somerville, 1st, 8th, 9th; Trenton, 1st, 2d, 9th; Tuckerton, 2d, 16th, 21st.

*Hail.*—Asbury Park, 9th; Belvidere, 23d; Beverly, 29th; Canton, Friesburg, 17th; Imlaystown, 23d, 30th; Indian Mills, 9th; Jersey City, Lakewood, 23d; Lambertville, 17th, 29th; Newark, 29th; New Brunswick, Plainfield, Sandy Hook, 23d; Somerville, 23d, 30th; Trenton, 23d.

*Halos, lunar.*—Atlantic City, 3d; Rancocas, 2d; Sandy Hook, 4th; Trenton, 27th.

*Halos, solar.*—Atlantic City, 12th; Hightstown, 3d, 11th; Indian Mills, 3d, 11th, 13th; Jersey City, 3d, 4th, 6th, 12th, 13th; Layton, 13th; Moorestown, 26th; Newark, 4th; Oceanic, 3d; Plainfield, 13th; Rancocas, 3d, 4th, 12th.

*Rainbows.*—Layton, 30th; Paterson, 10th, 30th; Rancocas, 13th, 23d; Somerville, 30th; Trenton, 23d.

*Thunderstorms.*—On the 1st at 1 station; 2d, 17 stations; 3d, 1 station; 5th, 1 station; 6th, 20 stations; 7th, 6 stations; 8th, 2 stations; 9th, 16 stations; 10th, 27 stations; 11th, 5 stations; 16th, 16 stations; 17th, 20 stations; 18th, 3 stations; 20th, 1 station; 21st, 12 stations; 22d, 17 stations; 23d, 27 stations; 24th, 2 stations; 26th, 1 station; 27th, 4 stations; 28th, 2 stations; 29th, 22 stations; 30th, 20 stations. At Weather Bureau stations thunderstorms occurred as follows: Atlantic City, 6th, 7th, 9th, 10th, 21st, 23d, 30th; Cape May, 9th, 10th, 16th, 21st, 22d, 23d, 24th. Total number of thunderstorms reported, 257.

### DELAYED REPORT.

May, 1906—Toms River: Mean temperature 61.8°, departure, +1.6°, highest, 91°, on the 18th, lowest, 31°, on the 11th, greatest daily range, 43°; total precipitation, 3.91 inches, departure, —0.32, greatest in 24 hours, 2.52 inches; number of rainy days, 6, clear, 22, partly cloudy, 7, cloudy, 2; prevailing wind direction, southeast.

### CORRECTION.

May, 1906—Newark, page 37, total precipitation, published 3.77 inches, should be 4.77 inches, departure should be +0.80; page 40, the amount for the 28th, published .19, should be 1.19, and the total should be 4.77.

### NOTE.

The article relating to the climate of Sussex, N. J., will be completed in a forthcoming issue of the New Jersey Section Report.

### LANTERN SLIDES.

The Geographic Society of Chicago has performed a valuable work for teachers and students of meteorology by issuing a series of lantern slides, covering practically every phase of meteorology, to be used by teachers and lecturers. The work and aims of the Society are indorsed by Prof. Willis L. Moore, Chief, U. S. Weather Bureau, and other officials of this Bureau, and the lantern slides were prepared under the direction of a committee, of which Prof. Henry J. Cox, Official in Charge of the local office, U. S. Weather Bureau, Chicago, was the chairman. The slides are offered at actual cost, and a circular of information may be obtained by addressing the agent of the Society, P. O. Box No. 233, Chicago, Ill.

### COMPARATIVE DATA FOR JUNE.

YEAR	TEMPERATURE			AVERAGE PRECIPITA- TION
	MEAN	HIGHEST	LOWEST	
1887	68.2	97	42	6.77
1888	70.8	104	38	2.59
1889	69.9	93	37	3.73
1890	70.7	95	42	3.59
1891	69.7	102	38	2.92
1892	72.4	98	44	3.85
1893	69.7	103	40	2.95
1894	70.6	102	35	2.28
1895	71.7	103	39	3.24
1896	68.1	97	37	5.46
1897	66.1	95	35	3.38
1898	70.1	100	38	2.10
1899	72.3	103	38	2.50
1900	70.4	97	39	3.08
1901	70.0	103	35	1.57
1902	67.5	99	37	6.57
1903	64.0	92	37	7.68
1904	68.6	100	34	3.13
1905	68.3	96	35	3.43
1906	70.4	98	38	4.48



## Climatological Data for New Jersey, June, 1906.

Stations.	Counties	Elevation, feet, above sea level.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.					Sky.				Prevailing direction of wind.	Observers
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from normal.	Greatest in 24 hours.	Total snowfall (unmelted.)	Days with .01 or more.	Number of clear days.	Number partly cloudy days.	Number cloudy days.		
Highlands and Kittatinny Valley.																				
.....	Sussex.....	550	7	67.6	+2.0	89	30	38	12	39	3.30	-1.33	1.10	0	10	22	3	5	sw.	Warren C. Hursh.
.....	Sussex.....	412	12	69.0	+1.6	88	29-30	43	12	34	2.92	-1.33	0.67	0	10	15	9	6	sw.	Prof. W. H. Seeley
.....	Sussex.....	678	26	70.0	+1.4	91	28	44	12	36	4.16	+0.27	1.13	0	12	17	9	4	w.	Brice Bowman
.....	Passaic.....	719	14	67.2	+2.0	86	28-29	40	14	40	5.47	+1.42	1.30	0	12	20	4	6	w.	G. S. Briggs.
.....	Morris.....	.....	3	.....	.....	.....	.....	.....	.....	.....	9.18	.....	6.68	0	11	.....	.....	.....	.....	River & Flood Service.
.....	Morris.....	575	22	68.5	+1.1	90	30	44	12-13	36	5.55	+1.54	1.52	0	12	1	21	8	.....	William C. Harris.
.....	Warren.....	289	16	70.6	+3.2	92	30	43	13	31	4.41	+0.66	1.13	0	10	17	7	6	.....	Samuel J. Hixson.
.....	Warren.....	196	4	71.4	+1.3	93	30	47	12	33	1.38	+0.65	1.05	0	14	16	10	4	w.	D. W. Smith.
District Averages.....				69.2	+1.8						4.92	+0.54			11	15	9	6		
The Red Sand Stone Plain.																				
.....	Bergen.....	70	3	.....	.....	90	30	40	14	40	3.43	-0.29	2.20	0	8	22	2	6	se.	River & Flood Service.
.....	Bergen.....	70	15	68.6	+0.8	90	30	40	14	40	3.43	-0.29	2.20	0	8	22	2	6	nw.	A. C. Holdrum.
.....	Passaic.....	110	30	72.4	+2.1	94	30	49	12	33	3.23	-0.98	0.81	0	11	4	21	5	sw.	H. A. Probert.
.....	Bergen.....	135	16	69.4	+1.5	91	30	48	13	28	2.04	-1.98	0.53	0	9	12	9	9	sw.	William C. Tucker.
.....	Passaic.....	3	3	.....	.....	.....	.....	.....	.....	.....	3.62	.....	1.01	0	12	.....	.....	.....	w.	River & Flood Service.
.....	Essex.....	200	35	69.4	+0.2	90	30	19	12-13	30	4.07	+0.50	1.93	0	8	11	9	10	sw.	W. J. Chandler, M.D.
.....	Morris.....	3	3	.....	.....	.....	.....	.....	.....	.....	3.68	.....	1.05	0	13	.....	.....	.....	w.	River & Flood Service.
.....	Essex.....	140	14	71.0	+1.2	91	30	48	12	34	2.63	-0.99	0.75	0	11	6	16	8	sw.	W. E. Stearns.
.....	New York.....	344	36	71.5	+2.5	93	30	52	12	24	1.70	-1.55	0.48	0	10	5	17	8	s	U. S. Weather Bureau.
.....	Hudson.....	15	1	72.3	.....	95	30	53	12	26	1.45	.....	0.55	0	10	12	11	7	sw.	Samuel K. Pearson, Jr.
.....	Hudson.....	50	16	70.7	+0.7	92	30	51	12	29	2.13	-1.59	0.97	0	15	9	14	7	sw.	John H. Eadie.
.....	Hudson.....	37	9	70.6	+1.6	91	30	51	13	28	2.48	-1.51	1.07	0	10	4	21	5	sw.	Dr. W. H. Mitchell.
.....	Union.....	33	27	73.4	+2.3	96	30	52	12-13	34	3.27	-0.42	0.83	0	7	24	1	5	.....	W. M. Oliver.
.....	Union.....	100	16	70.3	+1.0	93	29	48	13	32	5.10	+1.14	1.39	0	16	6	18	6	ne.	John Neagle.
.....	Somerset.....	76	27	71.3	+1.5	94	30	46	13	32	4.57	+0.58	1.70	0	14	16	6	8	sw.	Peter Hardcastle
.....	Hunterdon.....	187	9	71.2	+1.4	95	30	48	13	31	3.22	-0.58	0.83	0	14	14	10	6	sw.	H. E. Deats.
.....	Middlesex.....	61	53	.....	.....	.....	.....	.....	.....	.....	4.37	+0.51	1.38	.....	8	20	6	4	w.	Wm. T. Woerner.
.....	Middlesex.....	100	11	70.8	+1.8	92	30	47	13	32	3.20	-0.13	0.79	0	13	16	11	3	s.	Miss J. A. Voorhees.
.....	Hunterdon.....	95	20	72.3	+1.9	94	30	49	12-13	32	6.07	+1.77	1.87	0	12	18	4	8	sw.	William R. Bowne.
District Averages.....				71.0	+1.5						3.39	-0.27			11	13	10	7		
The Southern Interior.																				
.....	Mercer.....	85	15	68.8	.....	92	30	43	13	33	5.72	+2.52	2.96	0	9	11	12	7	sw.	Ernst Wenger.
.....	Mercer.....	60	37	72.2	+0.6	94	30	50	13	30	4.82	+1.03	0.76	0	11	1	24	5	sw.	E. R. Cook.
.....	Monmouth.....	106	20	71.6	+0.6	92	30	50	13	28	5.48	+1.73	1.80	0	13	13	13	4	sw.	F. C. Price, M.D.
.....	Ocean.....	54	6	70.2	.....	91	30	47	13	35	6.03	.....	2.00	0	12	15	13	2	se.	C. A. Roe.
.....	Burlington.....	30	22	72.6	+1.7	94	30	50	13	31	7.08	+3.44	2.08	0	15	4	17	9	sw.	C. F. Richardson
.....	Burlington.....	68	21	.....	.....	95	29	53	13	.....	8.18	+4.73	4.32	0	13	12	7	11	sw.	Spencer Haines.
.....	Burlington.....	71	1	71.6	.....	95	30	44	13	32	4.65	.....	2.19	0	10	11	15	4	sw.	F. J. Miller.
.....	Burlington.....	71	42	71.5	+1.1	92	30	48	13	29	7.33	+3.63	4.25	0	13	8	12	10	s.	John C. Beaus.
.....	Philadelphia.....	117	36	73.2	+1.5	96	30	55	12	27	8.04	+4.76	3.43	0	13	1	14	15	sw.	U. S. Weather Bureau.
.....	Ocean.....	33	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. G. Bunnell.
.....	Burlington.....	76	6	72.4	+3.3	97	30	48	13	36	4.25	+0.04	0.87	0	14	12	14	4	sw.	James Armstrong.
.....	Gloucester.....	126	10	71.8	+2.1	93	30	50	13	29	3.69	+0.38	1.43	0	12	15	8	7	sw.	Wm. T. Farley.
.....	Ocean.....	23	9	71.0	+2.2	98	30	48	13	31	1.72	-2.59	0.71	0	11	9	16	5	sw.	F. R. Austin.
.....	Salem.....	143	14	72.6	+2.6	95	30	50	13	31	5.88	+1.98	2.00	0	14	3	21	6	w.	H. C. Perry.
.....	Cumberland.....	118	39	72.4	+0.4	96	28	49	13	32	4.54	+0.99	1.89	0	16	13	13	4	sw.	Alfred Chalmers.
.....	Salem.....	24	5	.....	.....	.....	.....	.....	.....	.....	5.66	.....	2.94	0	6	20	6	4	.....	J. H. Maskell.
.....	Cumberland.....	30	20	73.8	+0.5	97	29-30	50	13	31	5.13	+1.47	2.69	0	10	14	4	12	sw.	Henry A. Jorden.
.....	Atlantic.....	26	4	.....	.....	.....	.....	.....	.....	.....	3.13	.....	0.60	0	13	16	11	3	.....	L. Van Gilder.
.....	Cape May.....	43	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0	.....	.....	.....	.....	.....	Arthur R. Merrill.
.....	Cape May.....	19	19	70.8	+1.0	92	30	53	12-13	25	4.76	+2.24	1.38	0	12	10	14	6	s.	L. T. Garretson.
District Averages.....				71.8	+1.2						5.34	+2.41			12	10	13	7		
The Sea Coast.																				
.....	Monmouth.....	14	3	70.6	.....	90	30	55	12	21	4.27	.....	1.53	0	13	6	10	14	se.	Arthur E. Jewell.
.....	Monmouth.....	16	20	69.8	-0.1	91	30	50	13	24	4.96	+0.96	1.75	0	12	12	14	4	w.	Rev. S. W. Knipe.
.....	Monmouth.....	22	18	69.4	+0.8	94	30	51	13	27	4.45	+0.57	1.07	0	12	11	9	10	se.	B. H. Obert.
.....	Atlantic.....	16	31	68.8	+2.1	96	30	56	8	24	2.30	-0.68	0.74	0	15	3	12	15	sw.	U. S. Weather Bureau.
.....	Cape May.....	11	13	68.5	+0.2	88	29-30	54	12	28	5.42	+2.25	1.28	0	17	5	20	5	w.	U. S. Weather Bureau.
District Averages.....				69.4	+0.8						4.28	+0.78			14	7	13	10		

Records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records of stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus, (a), 1 day, (b), 2 days, etc. "T" when used, indicates amount too small to measure. † Incomplete. \* Precipitation data not included in averages.



[illegible]



## TOTAL PRECIPITATION, JUNE, 1906.



## Daily Precipitation for New Jersey, June, 1906.

Stations.	Day of month.																															Total.	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
The Highlands & Kittatinny Val																																	
Layton.....						.58			.02	.33							.40	.46	.20			.11	.08						1.10	.02		3.30	
Sussex.....						.20			.30	.12	.09						.17	.29	.21			.67	.22							.65		2.90	
Newton.....		.14			.05	.23	†		.12							.05	.31	.42	.35			.50	.79						1.18	.07		4.10	
Cbarlotteburg.....					.12	.23			.55	.16						1.30	.25	.58	.20		.70	.08								.75	.55		5.40
Pompton Plains II.....	.05	.08			*		.25			†						.55	6.68	.33	.38	.04	*	.20	*	.14						†	.48		9.10
Dover.....					.05	.14			.01	.14						1.26		1.08	.04		.63		.20					*	1.52	.38		5.40	
Belvidere.....	.12					.53				.15						.30	.15	.52	.25			.85	1.13							.41		4.40	
Phillipsburg.....		.23			.02	.10	.08		†	.02						1.05	.15	.82	.30			.02	.64	.19						.34	.42		4.30
The Red Sand Stone Plain.																																	
Mahwah II.....					*	.20	.18			.39	.02					.90	1.10	.24	.46		.32		.07	.10						.22		4.20	
River Vale.....						.10										2.20	.15	.36	.22			.10					.12			.18		3.40	
Paterson.....		.32			†		.43			.04	.16					.81	.15	.55	.17			.09	.13							.38	†		3.20
Englewood.....						.09				.03						.42	.29	.23	.36			.03								.53	.16		2.00
Little Falls I.....	.02	.02			.03	.16		.15	.02	.34						.36	1.01	.31	.38	.04		.16	.01	.14						.47		3.60	
South Orange.....	†	†			†					.06						1.93		.48	.44		.02		.18					†		.90	.06		4.00
Cbatbam II.....	.03	.02			.09	.11			.18							.16	.55	.30	.60	.12	*	.16	.06	.20						1.05	.05		3.60
Newark.....	†	†			.35			.09	.02							.50	.19	.38	.15		.01	†	.16							.75	.03		2.60
New York City, N Y.....	†				.15		†	.04								.38	.10	.09	.37		.01		.04							.48	.04		1.70
Jersey City.....	†				.10			†	.01							.24	.07	.06	.33			.01	.06	†			†			.55	.02		1.40
Bayonne.....		.04			.01	.01	.09	.01	.05							.29	.08	.12	.26	†		.03	.08	.01						.57			2.10
Bergen Point.....	†	.07				†	.03		†	.15						.36	.10	.22	.38			.04	.06							1.07			2.40
Elizabeth.....		†				†										.83		*	1.27		.09		.18							.69	.22		3.20
Plainfield.....	†	.47			.01	.03			.02	.19						1.34	.05	.57	.58	.01		.07	.97	.02			.05			.60	.17		5.10
Somerville.....		.12				.03	.05	.15		.20						1.70	.14	.54	.18	.02		.31	.22							.73	.18		4.50
Flemington.....	.01	.01			.10	.08		.02	.15							.41	.51	.83	.24		*	.28	.22					†		.23	.13		3.20
New Brunswick.....		.60							†	.05						.38	†	1.38	.03			†	.38							.65	.90		4.30
College Farm.....		.26	†			†	.04			.14	.11					.15	.28	.79	.44			.15	.03	.04						.69	.08		3.20
Lambertville.....	†				.02	.27			.10	.05						1.39	1.42	1.87	.25			.22		.31						.02	.25		6.00
The Southern Interior.																																	
Hightstown.....		†				.03				.06	.10					2.26			.97		.12		.16							1.18	.14		5.70
Trenton.....						.37			.41	.24						.76	.40	.70	†		.65	.11	.73			.14				†	.31		4.80
Imlaystown.....	.28				.03		.12		*	.07						1.80		*	1.08		.30	.78								.54	.48		5.40
Lakewood.....	.08					.02	.10			.81						2.00	.46	.20	.26				.90	.17						1.01	.02		6.00
Beverly.....	†				.16	.02		.05	.33	.18						1.55	.80	2.08	.58			.58	.23	.08			†	.01		.23	.20		7.00
Rancocas.....	†				.06	.36	†	†	.25	.12		†			†	3.82	.50	1.00	.80		.42	†	.15	.13						.28	.29		8.10
Brown's Mills.....	.02					.06	.05		.62							2.19		.53	.66			.23			.24					.05			4.40
Moorestown.....	†	†			.03	.13		.05	.17	.10			†			4.14	.14	1.25	.59		*	.40	.14	.10			†	.09		†			7.10
Philadelphia, Pa.....	†	†	.01			.25	.06		.71	.26			†			3.30	1.07	1.10	.25		.61	†	.14	.08			†			†	.20		8.00
Toms River.....																																	
Indian Mills.....						.07	.24		.70	.06	.10					.87	.37	.66	.71			.20	.12	.10			*	.05					4.20
Clayton.....						.03			.05	.13	.13					.02	.48	1.43	.39			.66	.05	.10		.22							3.00
Tuckerton.....						.10				.13	.02					.22	.18	.71			.03	.68	.07	.08						.19			1.70
Friesburg.....		.06	.05			.70	.12		†	.07	.16					1.50	2.00	.47				.53	.12	.08			*	.02					5.80
Vineland.....	.04	.02				.41	.14		*	.06	.36		†			†	1.89	1.01			*	.36	.05	.14			*	.06					4.80
Canton.....	.08					†			.21				†			†	2.94	1.78				.39									.26		5.00
Bridgeton.....	.12					.16			.16	.10						2.69	1.26					†									.05		5.00
Pleasantville.....	.03	.02				.33	.31		.16	.08						.40	.33	.60				.42			.16								3.00
Woodbine.....																					*	.28											
Cape May C. H.....	.44	.14				.12	†			.27	.05		.05			†	.26	.16	1.35			.42	†	1.38				.12					4.00
The Sea Coast.																																	
Sandy Hook.....		.21				.06	†		.06	.19	.02					1.53	.25	.11	.62			.02	.25							.69	.26		4.00
Oceanic.....		.69				*	.02			.04	.02					1.75	.25	.50	.65			.10	.08	.04						.82	†		4.00
Asbury Park.....	†	†	.06			*	.02		.58	.98	.04					†	1.01	.55	.27	†		.05	.01	.20						.62			4.00
Atlantic City.....	.08	.01				.17	.17	†	.08	.03			†			.51	.03	.16	.59		.22	.02	.02	.19		.02							2.00
Cape May City.....	.71	.16				.04			.36	.10			.03			.30	.05	.59	.71	.01	.11	.15	1.28	.53			.22	.07					5.00

† Precipitation measured at 8 a. m., 75th meridian time.

\* Precipitation included in that of following day.

+ Indicates amount too small to measure.



LINKS

U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR JULY, 1906.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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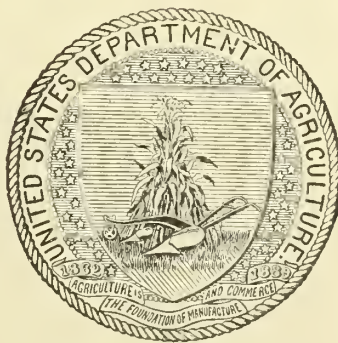
WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.

WEATHER BUREAU OFFICE

AUGUST 23, 1906

# Monthly Mean Isotherms and Prevailing Winds, July, 1906.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

XIX. ATLANTIC CITY, N. J., JULY, 1906.

No. 7.

## GENERAL SUMMARY.

The temperature for July, 1906, averaged  $1^{\circ}$  below the normal, although over the northern half of the State the departures below the normal were slight. In the southern half of the State the average departure from the normal was  $-1.5^{\circ}$ , the deficiency in mean temperature being most pronounced in portions of Cumberland, Mercer, Monmouth and Ocean counties. The absolute maximum temperature for the month,  $94^{\circ}$ , was lower than has been recorded for July in a period of 20 years. At 22 stations the temperature failed to reach  $90^{\circ}$  during the month. The warm wave that existed at the close of June, 1906, was effectually broken during the first few days of July, and thereafter few maximum temperatures exceeding  $90^{\circ}$  were reported. The minimum temperatures for the month, ranging from  $46^{\circ}$  in the extreme north, to about  $60^{\circ}$  at stations on the eastern coast, were generally registered on the 7th. The daily ranges in the temperature during the second half of the month were unusually small.

The rainfall for the State at large (5.58 inches) was copious, but as it was in the form of showers and thunderstorms the distribution was somewhat irregular, and occurrences of large excesses and deficiencies over comparatively small areas were not uncommon. The most marked deficiencies occurred in portions of Essex, Hudson, Union and Warren counties, the eastern portion of Bergen, and the southwestern portion of Burlington County, where the total rainfall was generally less than 4 inches. In Morris County, the northwestern part of Passaic, the extreme northern part of Bergen, and the extreme western and northeastern parts of Monmouth County, the total precipitation ranged from about 7 to slightly more than 8 inches, and was decidedly above the normal. Elsewhere the rainfall was, as a rule, about the normal. The only days during the month that were entirely free from an appreciable amount of precipitation were as follows: 7th, 12th, 13th, 14th, 20th, 25th and 26th. Excessive rains, ranging from 2.67 to 5.01 inches, occurred at 7 stations on the 3d-4th.

For the period from January 1st to July 31st, inclusive, both the temperature and the precipitation for New Jersey are in excess of the normal, the former by nearly  $1^{\circ}$  and the latter by .66 of an inch.

## TEMPERATURE.

The monthly mean,  $72.8^{\circ}$ , was  $1^{\circ}$  below the normal, and  $1.6^{\circ}$  below the mean for the corresponding month of 1905.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $71.7^{\circ}$ ; Red Sand Stone Plain,  $74.0^{\circ}$ ; Southern Interior,  $73.7^{\circ}$ ; Sea Coast,  $72.0^{\circ}$ .

The highest monthly mean was  $76.0^{\circ}$ , at Elizabeth, and the lowest,  $69.7^{\circ}$ , at Charlotteburg.

The absolute maximum was  $94^{\circ}$ , at Asbury Park, on the 1st, at Elizabeth, on the 16th, and at Bridgeton, on the 21st, and the absolute minimum,  $46^{\circ}$ , at Layton, on the 7th, and Charlotteburg, on the 8th.

The absolute range for the State was  $48^{\circ}$ .

The greatest local monthly range was  $43^{\circ}$ , at Charlotteburg and Newton, and the least,  $21^{\circ}$ , at Atlantic City.

The greatest daily range was  $36^{\circ}$ , at Charlotteburg, on the 8th, and at Flemington, on the 10th.

## PRECIPITATION.

The average, 5.58 inches, was .32 of an inch above the normal, and 1.52 inches above the average for the corresponding month of 1905.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 5.95 inches; Red Sand Stone Plain, 5.32 inches; Southern Interior, 5.27 inches; Sea Coast, 5.79 inches.

The greatest monthly amount was 8.28 inches, at Sandy Hook, and the least, 3.44 inches, at Englewood.

The greatest amount in any 24 consecutive hours was 5.01 inches, at Imlaystown, on the 3d.

The average number of days with a measurable amount was 12.

Excessive precipitation (2.50 inches, or more, in any 24 consecutive hours) occurred as follows: Imlaystown, 3d, 5.01 inches; Sandy Hook, 4th, 4.02 inches; Beverly, 3d-4th, 4.01 inches; Hightstown, 3d-4th, 3.94 inches; Trenton, 3d-4th, 2.85 inches; Vineland, 3d-4th, 2.80 inches; Charlotteburg, 21st-22d, 2.69 inches; Flemington, 3d-4th, 2.67 inches.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 11; partly cloudy, 14; cloudy, 6. At Atlantic City the duration of sunshine was 53 per cent of the possible amount.

## WIND.

The prevailing direction was southwest. At Sandy Hook, a velocity of 65 miles per hour occurred on the 9th.

## MISCELLANEOUS PHENOMENA.

*Halos, lunar*.—Asbury Park, Sandy Hook, 31st; Newark, 1st.

*Halos, solar*.—Atlantic City, Moorestown, Oceanic, Rancocas, Vineland, 6th; Indian Mills, 15th; Jersey City, 6th, 22d, 29th.

*Hail*.—Beverly, 9th; Bridgeton (near), 11th, 29th; Canton, 28th; Flemington, 3d, 9th; Lambertville, 9th, 10th; Newark, 10th; Oceanic, 9th; Somerville, 9th, 10th, 17th, 21st; Trenton, 3d.

*Rainbows*.—Asbury Park, 10th, 30th; Beverly, 15th; Hights-

town, 9th, 10th; Indian Mills, 15th, 17th, 21st, 30th; Moorestown, Paterson, Rancocas, 15th; Sandy Hook, 9th, 22d; Somerville, 10th; Woodbine, 4th, 18th.

*Thunderstorms* (dates and number of stations reporting): 1st, 6; 2d, 6; 3d, 25; 4th, 17; 9th, 25; 10th, 26; 11th, 1; 16th, 5; 17th, 26; 18th, 2; 19th, 4; 20th, 2; 21st, 21; 22d, 16; 23d, 7; 24th, 10; 27th, 5; 28th, 16; 29th, 17; 30th, 8; 31st, 1. At Weather Bureau stations thunderstorms occurred as follows: Atlantic City, 3d, 4th, 9th, 11th, 17th, 19th, 21st; Cape May, 2d, 4th, 9th, 17th, 18th, 21st, 22d. Total number of reports, 260.

*Fog*.—Atlantic City, 13th, 15th, 16th, 20th; Bayonne, 12th, 13th, 20th, 21st; Bergen Point, 12th, 13th; Beverly, 12th, 31st; Canton, 19th, 20th; Cape May, 5th, 11th, 12th, 19th, 20th; Flemington, 12th; Hightstown, 12th, 27th; Indian Mills, 13th; Jersey City, 19th, 20th, 21st; Lambertville, 12th, 13th; Mahwah, 20th; Moorestown, 12th; New Brunswick, 20th; Oceanic, 8th, 12th; Plainfield, 19th; Pompton Plains, 18th, 27th, 28th; Rancocas, 12th, 20th; Sandy Hook, 11th, 12th, 19th, 20th; Somerville, 21st; Trenton, 12th, 20th, 22d; Vineland, 2d, 12th, 13th, 20th.

### Local Storms.

Loss of life and damage to property by local storms during July, 1906, occurred as follows: Near Jersey City, on the 29th, 8 persons were struck by a bolt of lightning and one was killed. On the 1st, at Oceanic, a boy was killed by lightning. At Bayonne, on the 17th, a building was struck and damaged by lightning, and fruit and shade trees were injured by the high wind which accompanied the storm. At Somerville, on the 1st, trees were uprooted by a high wind, and on the 10th, a destructive hail and windstorm occurred in the vicinity of the station.

### Note.

The publications of the New Jersey Section, Climatological Service of the Weather Bureau, will be issued hereafter without cooperation with the New Jersey State Weather Service.

### Comparative Data for July.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1887.....	77.1	102	51	7.67
1888.....	71.1	99	45	3.50
1889.....	73.4	96	48	10.19
1890.....	72.5	101	39	5.62
1891.....	70.1	95	40	5.30
1892.....	74.3	105	44	4.03
1893.....	73.9	102	40	2.72
1894.....	75.7	106	44	1.66
1895.....	70.9	99	41	4.26
1896.....	75.0	98	47	5.50
1897.....	74.1	102	50	11.42
1898.....	75.3	107	38	4.96
1899.....	74.7	98	38	5.75
1900.....	75.9	104	42	4.74
1901.....	77.3	107	41	5.87
1902.....	73.0	100	43	4.78
1903.....	73.3	100	38	5.51
1904.....	72.3	98	42	4.87
1905.....	74.4	102	42	4.06
1906.....	72.8	94	46	5.58

### Climatology of Sussex, N. J.—Concluded.

The average annual precipitation at Sussex, based on records covering the period from February, 1895, to June, 1906, inclusive, is 45.49 inches. The average precipitation for winter is 10.18 inches, for spring 10.69 inches, for summer 14.10 inches and for autumn 10.52 inches. The normal precipitation by months (expressed in inches), is as follows: January, 3.20; February, 3.28; March, 4.00; April, 3.20; May, 3.49; June, 4.14; July, 5.37; August, 4.59; September, 4.07; October, 3.66; November, 2.79; December, 3.70. It will be seen that, as a rule, the wettest month of the year is July, and that the driest is November. The greatest monthly amount of rain, 14.87 inches, is, however, credited to the month of June (1903), while the least monthly amount, .70 of an inch, occurred in the month preceding that of the maximum fall, that is, in May, 1903. With the exception of the single instance just mentioned, there is no record of a monthly amount of rain of more than 10 inches, although monthly falls ranging from 8 to slightly more than 9 inches have occurred at irregular intervals. In the period of 137 months under discussion there are only five instances of monthly rainfalls measuring less than 1 inch. The annual precipitation has ranged from a minimum amount of 36.11 inches (year 1900) to a maximum amount of 58.79 inches (year 1903). In a period of 10 years the annual precipitation has been above the normal four times, below the normal five times, and about the normal once. For the years 1901 to 1903, inclusive, the total precipitation was nearly 167 inches, or about 30 inches above the normal. The three driest years were 1898 to 1900, inclusive, when the rainfall was 130 inches, or 6 inches below the normal.

An examination of the records establishes the fact that the station is practically free from severe and prolonged drought during the growing season, the supplies of moisture being, as a rule, sufficient for the needs of vegetation from the time of seeding to maturity. The average number of days per year with .01 of an inch, or more of precipitation is 113.

The annual snowfall at Sussex averages 44 inches. The heaviest snowstorms occur in January and February, although a considerable depth of snow is sometimes seen in March and December. No appreciable amount of snow has fallen in October, and the normal fall for April is only .5 of an inch. The winter of 1904-5 gave the greatest amount (68 inches), while for the winters of 1899-1900, 1900-1, and 1905-6, the falls, averaging about 15 inches, were much below the normal.

L. A. J.

### Correction.

In the "General Summary" of the report for June, 1906, page 43, the lines reading as follows should be erased: "At Bayonne, on the 10th, the local hospital building sustained considerable damage by a high wind." It has since been learned that the building was not damaged, although several tents, used for carnival purposes on the hospital grounds, were blown down.



CLIMATOLOGICAL DATA FOR JULY, 1906.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing direction of wind.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.			Number cloudy days.
THE HIGHLANDS & KITTATINNY VAL.																				
Layton	Sussex	550	7	70.3	-1.0	88	31	46	7	32	5.64	-0.72	1.70	0	15	16	15	0	SW.	Warren C. Hursh.
Sussex	do	442	12	71.4	-0.9	86	* 2	50	7	29	6.11	+0.71	1.59	0	11	17	11	3	W.	Prof. W. H. Seeley.
Newton	do	678	26	72.2	-0.5	90	31	47	7	34	5.73	-0.80	1.89	0	13	16	14	1	W.	Brice Bowman.
Charlotteburg	Passaic	719	11	69.7	-0.4	89	1	46	8	36	7.51	+2.49	2.69	0	11	15	16	0	SE.	G. S. Briggs.
Pompton Plains	Morris		3								7.07		2.31	0	11				NW.	River & Flood Service.
Dover	do	575	22	70.4	-1.3	86	*18	48	7	31	7.58	+1.88	1.83	0	13	0	21	10		William C. Harris.
Belvidere	Warren	389	16	73.6	+0.3	88	*10	52	7	28	3.97	-1.50	0.68	0	12	16	14	1		Samuel J. Hixson.
Phillipsburg	do	196	4	74.1	-0.3	91	23	53	7	29	1.00	-0.89	1.11	0	13	14	16	1	S.	D. W. Smith.
District averages				71.7	-0.5						5.95	-0.59			12	14	15	2		
THE RED SAND STONE PLAIN.																				
Mahwah	Bergen		3								7.11		1.84	0	11				NW.	River & Flood Service.
River Vale	do	70	15	72.2	-0.3	89	17	50	7	32	6.86	+2.32	2.30	0	11	17	9	5	SW.	A. C. Holdrum.
Patereson	Passaic	110	30	74.6	+0.1	91	17	55	7	29	5.74	+0.26	1.72	0	12	4	24	3	S.	H. A. Probert.
Englewood	Bergen	135	16	73.2	0.0	89	17	54	7	27	3.44	-2.83	0.88	0	13	11	9	11	SE.	William C. Tucker.
Little Falls	Passaic		3								6.77		1.65	0	12				NE.	River & Flood Service.
South Orange	Essex	200	35	72.6	-0.4	89	17	56	7	27	4.62	-0.81	1.10	0	10					W. J. Chandler, M. D.
Chatham	Morris		3								5.94		1.54	0	12				N.	River & Flood Service.
Newark	Essex	140	14	74.3	-0.1	90	* 1	55	7	30	3.71	-1.08	1.24	0	9	3	22	6	SE.	W. E. Stearns.
New York, N. Y.	New York	314	36	74.8	+0.9	89	10	61	7	25	3.21	-1.26	1.39	0	13	5	16	10	S.	U. S. Weather Bureau.
Jersey City	Hudson	15	1	75.3		90	10	56	7	28	4.41		1.58	0	13	7	16	8	S.	Samuel K. Pearson, Jr.
Bayonne	do	50	16	73.8	-1.1	89	17	54	7	26	4.70	-0.70	1.50	0	14	8	16	7	SE.	John H. Eadie.
Bergen Point	do	37	9	73.8	-0.7	88	17	56	7	27	4.28	-1.32	1.66	0	13	7	23	1	SE.	Dr. W. H. Mitchell.
Elizabeth	Union	33	27	76.0	+0.5	94	16	59	7	30	3.57	-2.13	1.55	0	9	23	6	2		W. M. Oliver.
Plainfield	do	100	16	73.4	-1.1	89	17	54	7	30	5.99	-0.11	1.63	0	14	7	21	3	SW.	John Neagle.
Somerville	Somerset	76	27	74.0	-0.2	90	10	52	7	26	5.98	+0.92	2.12	0	11	13	12	6	SE.	Peter Hardcastle.
Flemington	Hunterdon	187	9	73.9	-1.3	91	31	53	10	36	6.28	+0.81	2.67	0	12	16	13	2	SW.	H. E. Deats.
New Brunswick	Middlesex	61	53	73.5	-0.8	91	22	53	7	30	6.05	+0.98	1.49	0	10	17	8	6	W.	Wm. T. Woerner.
College Farm	do	100	11	73.3	-1.6	91	1	52	7	30	6.10	-0.32	1.45	0	12	17	12	2	S.	Miss J. A. Voorhees.
Lambertville	Hunterdon	95	20	74.8	+0.3	90	* 1	52	7	30	6.10	+0.83	1.64	0	8	17	11	3	S.	William R. Bowne.
District averages				74.0	-0.3						5.32	-0.31			12	11	15	5		
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	15	72.2	-2.8	89	*17	50	7	27	6.38	+0.86	3.94	0	13	15	7	9	E.	Ernst Wenger.
Trenton	do	60	37	74.4	-2.7	90	17	54	7	26	5.55	+0.07	2.85	0	9	3	23	5	NE.	E. R. Cook.
Milaystown	Monmouth	106	20	73.6	-1.6	89	3	54	7	25	7.74	+2.72	5.01	0	14	11	19	1	SW.	F. C. Price, M. D.
Lakewood	Ocean	54	6	71.8	-1.4	87	17	55	7	26	6.28	+0.98	1.39	0	14	15	11	5	SW.	C. A. Roe.
Beverly	Burlington	30	22	75.0	-0.3	91	*20	55	7	30	6.92	+1.84	4.01	0	14	4	23	4	NE.	C. F. Richardson.
Rancocas	do	68	21								3.85	-1.69	2.03	0	12	15	6	10	NE.	Spencer Haines.
Brown's Mills	do	71	1	72.8		92	3	52	7	34	6.23		1.40	0	11	13	16	2	SW.	F. J. Miller.
Moorestown	do	71	42	73.8	-1.1	90	3	53	7	27	4.11	-0.51	2.41	0	14	13	11	7	S.	John C. Beans.
Philadelphia, Pa.	Philadelphia	117	35	75.6	-1.0	89	2	60	7	23	5.33	+1.14	2.56	0	13	3	18	10	SW.	U. S. Weather Bureau.
Toms River	Ocean	33	15																	F. G. Bunnell.
Indian Mills	Burlington	76	6	74.4	-1.3	93	3	53	7	30	4.69	+0.58	1.70	0	14	9	17	5	SW.	James Armstrong.
Clayton	Gloucester	126	10	73.6	-1.8	89	2	54	7	27	5.18	+0.18	1.45	0	14	21	7	3	SW.	Wm. T. Farley.
Tuckerton	Ocean	23	9	72.7	-2.1	93	3	55	7	31	4.59	+0.73	1.65	0	14	4	21	6	SW.	F. R. Austin.
Friesburg	Salem	143	14	74.6	-1.3	91	* 2	54	* 7	31	4.93	+0.42	1.51	0	17	0	27	4	W.	H. C. Perry.
Vineland	Cumberland	118	39	74.2	-2.3	92	* 2	53	7	30	5.83	+1.20	2.80	0	14	5	22	4	NE.	Alfred Chalmers.
Canton	Salem	24	5								4.01		1.14	0	9	17	8	6		J. H. Maskell.
Bridgeton	Cumberland	30	20	75.4	-1.9	94	21	55	7	30	5.72	+0.79	1.68	0	10	14	7	10	NE.	Henry A. Jordan.
Pleasantville	Atlantic	26	4								5.20		2.00	0	10	16	9	6		L. Van Gilder.
Woodbine	Cape May	43	15	72.6	-1.2	90	*21	54	8	29	3.86	-0.24	1.32	0	10	19	10	2	E.	Arthur R. Merrill.
Cape May C. H.	do	19	19	73.0	-1.1	88	* 3	57	8	24	4.24	-0.03	1.30	0	15	5	18	8	NE.	L. T. Garretson.
District averages				73.7	-1.5						5.27	+0.46			12	11	14	6		
THE SEA COAST.																				
Sandy Hook	Monmouth	14	3	73.2		88	17	60	* 7	23	8.28		4.02	0	16	7	8	16	SE.	Arthur E. Jewell.
Seaside	do	16	20	72.2	-2.4	87	17	59	7	24	5.46	-0.65	1.86	0	15	12	16	3	SW.	Rev. S. W. Knipe.
Asbury Park	do	22	18	71.4	-1.4	94	1	61	* 7	26	5.08	-0.36	2.10	0	15	10	8	13	S.	B. H. Obert.
Atlantic City	Atlantic	16	31	71.4	-0.7	82	21	61	8	16	4.97	+1.25	2.19	0	11	1	10	20	SW.	Section Center.
Cape May City	Cape May	17	13	72.0	-1.6	85	21	59	7	15	5.17	+1.84	1.84	0	13	4	21	6	S.	U. S. Weather Bureau.
District averages				72.0	-1.5						5.79	+0.52			14	7	12	12		

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

† Received late; not considered in averages.

**HIGHLAND**  
TATIN  
Jayton  
Sussex  
Newton  
Charlotte  
Belvidere  
Phillips

**RED SANDS**  
PL  
River  
Paterson  
Englewood  
South Orange  
Newark  
New York  
New Jersey  
Bayonne  
Bergen  
Elizabeth  
Plainfield  
Somerville  
Fleming  
New Brunswick  
College  
Lambert

**SOUTHEAST**  
Hightstown  
Trenton  
Imperial  
Lakewood  
Beverly  
Moorestown  
Phila  
Toms River  
Indian  
Clayton  
Tuckerton  
Friesburg  
Vineland  
Bridgeville  
Woodbury  
Cape May

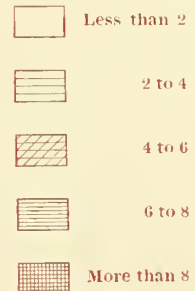
**SEA**  
Sandy Hook  
Oceanic  
Asbury  
Atlantic  
Cape May



# Total Monthly Precipitation, July, 1906.



SCALE OF SHADES—INCHES.



## TOTAL PRECIPITATION FOR JULY, 1906.

Stations.	Day of Month.																															Total.		
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.			
THE HIGHLANDS & KITTA-TINNY VALLEY.																																		
Layton .....	.05	.08	.48	.48	.....	.....	.....	.....	1.00	.09	.....	.....	.....	.....	.....	.....	.02	.....	.....	.....	1.70	.03	.31	.11	.....	.....	.....	.....	.54	.21	.20	.....	5.64	
Sussex .....	.....	.80	.67	.....	.08	.....	.....	.....	.45	.03	.....	.....	.....	.....	T.	.....	.42	.....	.....	.....	1.59	.....	.39	.43	.....	.....	.....	.....	.82	.....	.43	.....	6.11	
Newton .....	.15	.30	.38	.68	.33	.....	.....	.....	.40	.08	.....	.....	.....	.....	T.	.....	.07	.....	.....	.....	1.80	.....	.37	.25	.....	.....	.....	.....	.19	.....	.64	T.	5.73	
Charlotteburg .....	.....	.....	.20	1.04	.....	.....	.....	.....	.24	.08	.....	.....	.....	.....	.....	.....	.93	.....	.....	.....	1.38	1.31	.04	.....	.....	.....	.....	.15	.....	1.90	.24	.....	7.51	
Pompton Plains .....	.23	.....	* 2.15	.16	.07	.....	.....	.....	.08	.12	.....	.....	.....	.....	.....	.....	* .59	.....	.....	.....	* 1.74	.97	.08	.....	.....	.....	.....	.....	* .23	.54	.31	.....	7.07	
Dover .....	.....	1.22	.26	.04	.....	.....	.....	.....	.30	.14	.....	.....	.....	.....	.....	.01	.87	.....	.....	.....	1.46	.26	.....	.....	.....	.....	.....	.77	* 1.83	.42	.....	7.58		
Belvidere .....	.14	.....	.03	.66	.....	.15	.....	.....	.68	.08	.....	.....	.....	.....	.44	.....	.....	.....	.....	.....	.38	.....	.04	.....	.....	.....	.....	.....	.59	.17	.61	.....	3.97	
Phillipsburg .....	.40	.....	.53	.91	.32	.11	.....	.....	.06	.07	.....	.....	.....	.....	.....	.....	.21	.....	.....	.....	.04	.....	.05	.....	.....	.....	.....	.....	.42	.71	.17	T.	4.00	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
THE RED SAND STONE PLAIN.																																		
Mahwah .....	.....	.18	* 1.38	.....	.....	.....	.....	.....	.09	.31	.....	.....	.....	.....	.....	.....	.06	1.13	.03	.....	* 1.05	1.84	.....	.....	.....	.....	.....	.....	.....	* .78	.56	.....	7.41	
River Vale .....	.20	.....	* 2.30	.....	.....	.....	.....	.....	.38	.30	.....	.....	.....	.....	.....	.....	.80	.....	.....	.....	1.90	.40	.15	.....	.....	.....	.....	.....	.15	.28	.....	.....	5.86	
Paterson .....	.10	.....	.24	1.72	T.	.....	.....	.....	.07	.16	.....	.....	.....	.....	T.	.....	1.19	T.	.....	1.16	* .09	.....	.....	.....	.....	.....	.....	.....	.07	.39	.55	.....	5.74	
Englewood .....	.....	.....	.57	.88	.....	.....	.....	.....	.19	.14	.....	.....	.....	.....	.03	.16	.43	.05	.....	.52	T.	.01	.....	.....	.....	.....	.....	.....	.03	.34	.09	.....	3.44	
Little Falls .....	.08	.....	.10	1.23	.28	.03	.....	.....	.05	.08	.01	.....	.....	.....	.....	.01	.05	1.60	.....	.....	* 1.54	.49	.....	.....	.....	.....	.....	.....	.....	* .15	.78	.29	.....	6.77
South Orange .....	.....	.....	* 1.98	.....	.....	.....	.....	.....	.18	.50	.....	.....	.....	.....	.....	.....	.....	.90	.....	.....	1.10	.18	.....	.....	.....	.....	.....	.....	.....	* .34	.....	.....	4.62	
Chatham .....	.11	.....	* 1.15	.09	.....	.....	.....	.....	.06	.09	.12	.....	.....	.....	T.	.....	.04	1.03	.....	.20	1.10	.20	.....	.....	.....	.....	.....	.....	* .90	.50	.05	.....	5.94	
Newark .....	.....	1.24	T.	.....	.....	.....	.....	.....	.02	.12	.56	T.	.....	.....	T.	.04	.74	.....	.....	.77	T.	.....	.15	.....	.....	.....	T.	.07	.15	T.	.....	3.71		
New York, N. Y. ....	.....	.53	.86	.....	.....	.....	.....	T.	.17	.15	.....	.....	.....	.....	.01	.13	.47	.02	.....	.54	T.	.01	.....	.....	.....	.....	.....	.....	.08	.15	.09	.....	3.21	
Jersey City .....	.03	.....	.04	1.54	.....	.....	.....	.....	.20	.15	.....	.....	.....	.....	T.	.04	1.25	.03	.....	.76	T.	.01	.....	.....	.....	.....	.....	.....	.02	.21	.13	.....	4.41	
Bayonne .....	.03	.....	.05	1.45	.....	.....	.....	.....	.18	.03	T.	T.	.....	.....	T.	.....	1.42	.03	.....	.73	.05	* .03	.....	.....	.....	.....	.....	.....	.08	.36	.26	.....	4.70	
Bergen Point .....	.06	.....	.07	1.59	.....	.....	.....	.....	.24	.04	.....	.....	.....	.....	T.	T.	1.18	.06	T.	.....	.56	.08	.03	.....	.....	.....	.....	.....	.01	.30	T.	.06	4.28	
Elizabeth .....	.....	.....	* 1.55	.....	.....	.....	.....	.....	.25	.....	T.	.....	.....	.....	.....	.....	.94	.....	.....	.....	.25	.....	.....	.....	.....	.....	.....	.....	.....	* .58	.....	.....	3.57	
Plainfield .....	.....	.....	.05	1.58	.....	.....	.....	.....	.17	.14	.....	.....	.....	.....	.01	.05	.71	.02	.....	1.34	.26	.05	.....	.....	.....	T.	.14	1.34	.13	.....	.....	5.99		
Somerville .....	.23	.....	.07	2.05	.....	.....	.....	.....	.37	.37	.....	.....	.....	.....	T.	.....	1.02	.....	.....	.81	.....	.05	.....	.....	.....	.....	.....	.....	.08	.48	.45	.....	5.98	
Flemington .....	.45	.....	.25	2.42	.....	.....	.....	.....	.54	.43	.....	.....	.....	.....	T.	.....	.72	.....	.....	.08	.....	.03	.....	.....	.....	.....	.....	.....	.13	.45	.78	.....	6.28	
New Brunswick .....	.....	.....	.20	1.49	.....	.....	.....	.....	.24	.29	.....	.....	.....	.....	T.	.18	1.10	.....	.....	1.10	1.09	.02	T.	.....	.....	.....	T.	.34	.....	.....	.....	6.05		
College Farm .....	.48	.....	.06	1.40	.....	.....	.....	.....	.30	.24	.03	.....	.....	.....	.....	.....	1.30	.15	.....	1.07	.60	.14	.....	.....	.....	.....	.....	.....	.....	.33	.....	.....	6.10	
Lambertville .....	.....	1.64	T.	.....	.....	.....	.....	.....	.25	.89	.....	.....	.....	.....	T.	T.	1.52	.....	.....	.....	.26	.10	T.	.....	.....	.....	.20	T.	1.24	T.	.....	6.10		
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
THE SOUTHERN INTERIOR.																																		
Hightstown .....	.....	.....	* 3.94	.....	.....	.....	.....	.....	.10	.05	.....	.....	.....	.....	.....	.08	.08	1.02	.09	.....	.55	.07	.....	.14	.....	.....	.....	.....	.....	.12	.14	.....	6.38	
Trenton .....	.....	.....	.90	1.95	.....	.....	.....	.....	.42	.16	.....	.....	.....	.....	T.	T.	.94	.17	.....	.....	.....	.15	.....	.....	.....	.....	T.	.80	.06	.....	.....	5.55		
Imlaystown .....	.....	.....	5.01	.....	.....	.....	.....	.....	.15	.20	.04	.....	.....	.....	.....	.06	.05	.72	.13	.....	.06	* .27	.82	.....	.....	.....	.....	.....	.15	.08	.....	.....	7.74	
Lakewood .....	.27	.28	1.39	1.06	.....	.....	.....	.....	.47	.43	.....	.....	.....	.....	.12	.....	.15	.....	.....	.64	.....	1.10	.21	.....	.....	.....	.....	.....	.02	.09	.....	.05	6.28	
Beverly .....	.....	.....	.80	3.21	.....	.....	.....	.....	.27	.79	.....	.....	.....	.....	.01	.02	.51	.08	.....	.08	T.	.18	.01	.....	.....	.....	.....	.....	.03	.90	.03	.....	6.92	
Rancocas .....	.....	.....	1.25	.78	.....	.....	.....	.....	.14	.53	.78	.....	.....	.....	T.	.12	.15	.10	.....	T.	.08	.20	.01	.....	.....	.....	.....	.....	.....	.37	.12	.....	3.85	
Brown's Mills .....	.45	.....	1.40	.81	.....	.....	.....	.....	.28	.50	.....	.....	.....	.....	.....	.09	.05	.59	.....	.....	.55	.36	.....	.....	.....	.....	.....	.....	.....	.60	.60	.....	6.23	
Moorestown .....	.22	.....	.30	2.11	.....	.....	.....	.....	.07	.55	T.	.....	.....	.....	.02	.05	.08	.05	.....	T.	.01	.24	.02	.....	.....	T.	T.	.32	.07	.....	.....	4.11		
Philadelphia, Pa. ....	.....	.....	1.90	.66	.....	.....	.....	.....	.06	.52	.02	.....	.....	.....	T.	.24	.81	.15	.....	T.	.14	.04	.....	.....	.....	T.	.02	.68	.09	.....	.....	5.33		
Toms River .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Indian Mills .....	.02	.....	.37	1.33	.....	.....	.....	.....	.25	.05	.....	.....	.....	.....	.04	.....	.64	.10	T.	.....	.20	.....	.90	.22	.....	.....	.....	.....	.12	.45	.....	.....	4.69	
Clayton .....	.....	.....	.22	1.23	.....	.....	.....	.....	.32	.08	.....	.....	.....	.....	.03	.....	.38	.18	.21	.....	.10	.26	.56	.86	.....	.....	.....	.....	.41	.34	.....	.....	5.18	
Tuckerton .....	.05	.....	.29	.42	.....	.....	.....	.....	.12	.....	.....	.....	.....	.....	.46	.06	.15	.46	.....	.47	.....	.12	1.65	.....	.....	.....	.....	.....	.11	.07	.16	.....	4.59	
Friesburg .....	.....	.20	* 1.51	.06	.....	.....	.....	.....	.15	* .15	.....	.....	.....	.....	.01	.....	.31	.25	.....	.07	* 1.03	.25	.....	.....	.....	.....	.....	.....	.21	.70	.03	.....	4.93	
Vineland .....	.05	.....	.41	2.39	.....	.....	.....	.....	.36	* .03	.....	.....	.....	.....	.04	.....	.08	.07	.....	.08	.....	.53	1.04	.....	.....	.....	.....	.....	.....	* .15	.....	.....	5.85	
Canton .....	.....	1.09	T.	.....	.....	.....	.....	.....	.30	.07	.....	.....	.....	.....	T.	.32	.....	.....	.....	.06	1.14	T.	.09	.....	.....	.....	.....	.....	.12	.....	.82	.....	4.01	
Bridgeton .....	.....	1.68	T.	.....	.....	.....	.....	.....	.18	.03	1.00	.....	.....	.....	.....	.....	.15	.....	.....	.05	1.15	.....	.50	.....	.....	T.	T.	.25	.73	.....	.....	5.72		
Pleasantville .....	.....	.....	.96	1.04	.....	.....	.....	.....	.19	.....	.....	.....	.....	.....	.87	.....	.16	.32	.....	.08	.....	.12	1.45	.....	.....	.....	.....	.....	.01	.....	.....	.....	5.20	
Woodbine .....	.....	.....	.20	.52	.....	.....	.....	.....	.20	.40	.10	.....	.....	.....	1.32	.....	.32	.....	.....	.....	.....	.50	.....	.....	.....	.....	.....	.....	.25	.05	.....	.....	3.86	
Cape May C. H. ....	.....	.04	.09	.71	T.																													



U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR AUGUST, 1906.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

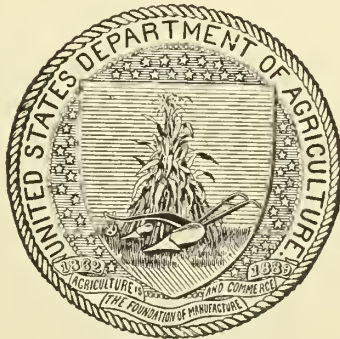
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UNDER DIRECTION OF  
WILLIS L. MOORE  
CHIEF U. S. WEATHER BUREAU

BY  
LEVI A. JUDKINS  
SECTION DIRECTOR



BOSTON, MASS.  
WEATHER BUREAU OFFICE  
SEPTEMBER 19, 1906

A detailed map of New Jersey, showing county boundaries and names. The map is oriented with North at the top. Red arrows and numbers indicate a path or temperature distribution. The path starts at the top (12°), moves south through Sussex, Morris, Warren, Hunterdon, Somerset, Middlesex, Mercer, Monmouth, Ocean, Burlington, Gloucester, Salem, Cumberland, and Cape May. The path ends at the bottom (16°). Other red numbers include 72°, 74°, and 76°. The map also shows major cities like Trenton, Newark, and Atlantic City, and the Atlantic Ocean to the east.



U. S. DEPARTMENT OF AGRICULTURE,  
**CLIMATOLOGICAL SERVICE**  
 OF THE  
**WEATHER BUREAU.**  
 CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,  
 LEVI A. JUDKINS, Section Director.

XIX. ATLANTIC CITY, N. J., August, 1906. No. 8.

### GENERAL SUMMARY.

Distinctive conditions of August, 1906, were high mean temperature, abnormally heavy rainfall at several stations, excessive humidity, and the general absence of destructive local storms. The mean temperature,  $74.6^{\circ}$ , is the highest that has been recorded for August since the year 1900, and with two exceptions the highest for this month in a period of 20 years. No higher maximum temperatures than usually occur during August were observed, yet the daily excess in mean temperature was about  $2.5^{\circ}$ . The night temperatures were much above the normal during the greater part of the month, and to this fact the high mean temperature is largely attributed. District departures from the average thermal conditions were most pronounced in the Highlands and Kittatinny Valley section, where an average daily excess of  $3^{\circ}$  occurred, although positive departures from the normal of from  $3$  to  $4^{\circ}$  occurred locally in other sections. The month opened with moderate temperatures, but on the 4th the weather became decidedly warmer and the ensuing hot wave continued until the 8th, the maximum temperatures on the 6th ranging from  $86$  to  $97^{\circ}$ . Few maximum values of  $90^{\circ}$ , or over, were recorded after the 7th. The day temperatures during the second decade were about the normal, but as a rule the nights were cooler than during either the first or the third decades, the minimum temperatures on the 16th ranging from  $42$  to  $59^{\circ}$  over the northern half of the State. The third decade was marked by generally warm days and nights. Excessively humid, oppressive weather prevailed during the month.

The average precipitation exceeded the normal by about 1 inch, but this excess was produced in the Southern Interior division, where the monthly totals of rain averaged practically 9 inches, or about 5 inches above the normal. Over the northern half of the State the rainfall, except in parts of Bergen and Sussex counties, was deficient, the greatest deficiencies occurring in portions of Essex, Hudson, Hunterdon, Morris, Union and Warren counties, where the total falls for the month generally were less than 3 inches. On the contrary, in parts of Burlington, Cumberland, Gloucester, Ocean and Salem counties, the actual rainfall exceeded 10 inches, the maximum fall, 91 inches, at Toms River, being the greatest amount recorded

for August in a period of 20 years. In the Sea Coast section the monthly precipitation ranged from 4.15 inches, at Cape May City, to 8.35 inches, at Atlantic City, and although there was a deficiency over the extreme southern part of Cape May County the average for the district was considerably above the normal. A large part of the month was showery, and excessively heavy 24-hour falls occurred at numerous stations in the south on the 1st, 2d and 3d. The only days without a measurable amount of rain in the State were as follows: 5th, 15th, 16th, 17th and 18th.

The month was free from damage to property by local storms of severity, although the general character of the weather in the southern districts was unfavorable for agricultural interests.

### TEMPERATURE.

The monthly mean,  $74.6^{\circ}$ , was  $2.4^{\circ}$  above the normal, and  $3.5^{\circ}$  above the mean for the corresponding month of 1905.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $72.9^{\circ}$ ; Red Sand Stone Plain,  $74.8^{\circ}$ ; Southern Interior,  $75.6^{\circ}$ ; Sea Coast,  $75.0^{\circ}$ .

The highest monthly mean was  $77.3^{\circ}$ , at Bridgeton, and the lowest,  $71.4^{\circ}$ , at Charlotteburg.

The absolute maximum was  $97^{\circ}$ , at Indian Mills, on the 6th, and the absolute minimum,  $42^{\circ}$ , at Charlotteburg, on the 16th.

The absolute range for the State was  $55^{\circ}$ .

The greatest local monthly range was  $49^{\circ}$ , at Layton, and the least,  $19^{\circ}$ , at Cape May City.

The greatest daily range was  $41^{\circ}$ , at Newton, on the 16th.

### PRECIPITATION.

The average, 5.95 inches, was 1.11 inches above the normal, and 0.23 of an inch above the average for the corresponding month of 1905.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 3.93 inches; Red Sand Stone Plain, 3.73 inches; Southern Interior, 9.79 inches; Sea Coast, 6.36 inches.

The greatest monthly amount was 17.91 inches, at Toms River, and the least, 2.21 inches, at Bergen Point.

The greatest amount in any 24 consecutive hours was 7.15 inches, at Indian Mills, on the 2d.

The average number of days with a measurable amount was 13.

Excessive precipitation (2.50 inches, or more, in any 24 consecutive hours) occurred as follows: Indian Mills, 2d, 7.15 inches; Toms River, 1st, 5.80 inches; Hightstown, 2d, 5.17 inches; Ran-cocas, 2d-3d, 4.87 inches; Clayton, 2d, 4.48 inches; Lakewood, 2d, 3.74 inches; Asbury Park, 2d, 3.73 inches; Vineland, 1st, 3.54 inches; Moorestown, 2d-3d, 3.46 inches; Canton, 24th, 3.44 inches; Friesburg, 2d, 2.90 inches; Brown's Mills, 2d, 2.82 inches; River Vale, 7th-8th, 2.70 inches; Bridgeton, 1st-2d, 2.64 inches.

### SUNSHINE AND CLOUDINESS.

The average number of clear days was 10; partly cloudy, 11; cloudy, 10. At Atlantic City the duration of sunshine was 50 per cent of the possible amount.

## WIND.

The prevailing direction was southwest.

## MISCELLANEOUS PHENOMENA.

*Hail*.—Woodbine, 12th.

*Halos, solar*.—Layton, 16th, 25th; Newark, 30th, 31st.

*Meteors*.—Moorestown, 11th; Paterson, 14th; Trenton, 13th.

*Rainbows*.—Cape May City, 7th; Indian Mills, Moorestown, 27th.

*Halos, lunar*.—Moorestown, 1st; Rancocas, 18th; Sandy Hook, 26th.

*Fog*.—Bayonne, 17th; Beverly, 1st, 22d; Cape May City, 13th, 14th, 28th, 29th; Flemington, 23d; Hightstown, 5th, 22d, 23d; Jersey City, 6th; Lambertville, 5th, 6th, 7th; Oceanic, 8th; Phillipsburg, 12th, 14th, 21st; Plainfield, 3d; Rancocas, 1st, 22d; Somerville, 22d; Trenton, 5th, 22d.

*Thunderstorms* (dates and number of stations reporting): 1st, 2; 2d, 2; 3d, 12; 4th, 14; 5th, 4; 6th, 6; 7th, 17; 8th, 17; 9th, 1; 11th, 12; 12th, 6; 13th, 1; 20th, 3; 21st, 19; 22d, 9; 23d, 6; 24th, 6; 27th, 10; 30th, 1. At Weather Bureau stations thunderstorms occurred as follows: Atlantic City, 3d, 6th, 8th, 11th, 12th, 21st, 22d; 27th; Cape May City, 3d, 6th, 8th, 22d, 30th. Total number of reports, 161.

## COMPARATIVE DATA FOR THE SUMMER SEASON.

The mean temperatures for the months of June, July and August, for a period of 19 years, 1887 to 1905, inclusive, are as follows: 1887, 71.9°; 1888, 71.5°; 1889, 71.0°; 1890, 71.6°; 1891, 70.9°; 1892, 73.4°; 1893, 72.1°; 1894, 72.4°; 1895, 72.3°; 1896, 72.2°; 1897, 70.4°; 1898, 73.4°; 1899, 73.1°; 1900, 74.2°; 1901, 73.7°; 1902, 70.2°; 1903, 68.6°; 1904, 70.6°; 1905, 71.3°; average, 71.8°. The warmest summer was that of the year 1900, its mean temperature having been 74.2°. The coolest summer occurred in 1903, when the temperature for June was 64.0°, for July 73.3°, and for August 68.4°, resulting in an average temperature for the season of 68.6°, or about 3° lower than the average for the 19-year period. The mean temperature for June, 1903 (64.0°), is the lowest that has been recorded for any individual summer month, while the highest for any one summer month is 77.3° (July, 1901), the latter being closely followed by 77.1° (July, 1887). The three consecutive warmest summers, mean temperature 73.7°, occurred from 1899 to 1901, inclusive, and were followed by the three coolest summers, 1902, 1903 and 1904, the average temperature for which was 69.8°. The absolute maximum temperature for New Jersey is 107° (July, 1898 and 1901), and the absolute minimum (for summer) is 34° (June, 1904 and August, 1895).

The total precipitation for the summer months (expressed in inches) for the last 19 years, is as follows: 1887, 18.20; 1888, 12.22; 1889, 19.10; 1890, 14.11; 1891, 13.54; 1892, 11.51;

1893, 12.19; 1894, 6.52; 1895, 10.03; 1896, 12.79; 1897, 19.19; 1898, 12.42; 1899, 12.61; 1900, 7.50; 1901, 16.87; 1902, 15.26; 1903, 20.14; 1904, 14.62; 1905, 13.21; average, 13.79. The summer of 1903 has the distinction of being the wettest as well as the coolest, and furthermore the distribution of the rainfall was remarkably uniform, having been 7.68 inches in June, 5.51 inches in July, and 6.95 inches in August. The summers of 1889 and 1897, total precipitation, 19.10 and 19.19 inches, respectively, were also abnormally wet, but in each one about 60 per cent of the rainfall occurred in one month—July. Exceptionally dry summers have occurred only twice in the period under discussion, viz., 6.52 inches in 1894, and 7.50 inches in 1900, although examples of uncommonly dry single months during the summer season are numerous, among which may be mentioned June, 1901, when the average precipitation for New Jersey was 1.57 inches, and July, 1894, which had an average rainfall of 1.66 inches. The maximum rainfall for any single summer month is 11.42 inches for July, 1897. The three consecutive wettest summers were those of 1901, 1902 and 1903, the total excess in the precipitation having been 10.90 inches. The three consecutive driest summers occurred in 1893, 1894 and 1895, when the total deficiency in the precipitation was 12.63 inches.

The precipitation during the current summer, for the State as a whole, has been steadily above the normal, the greatest excess occurring in August and the least in July. The amounts for the several months are as follows: June, 4.48 inches; July, 5.58 inches; August, 5.95 inches; total, 16.01 inches, or 2.22 inches above the average. The rainfall has been unusually heavy in the counties comprising the Southern Interior district, and the maximum amount for August (17.91 inches) supersedes the amount previously mentioned as the greatest fall for any single summer month.

The average temperature for the summer of 1906 is 72.6°, or .8° above the normal, this being the first positive departure from the normal that has occurred for this season since the year 1901. The temperature was moderately above the normal in June, slightly below in July, and decidedly above in August.—L. A. J.

## Comparative Data for August.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1887.....	70.4	94	42	3.76
1888.....	72.5	98	41	6.13
1889.....	69.6	95	45	5.18
1890.....	71.5	99	40	4.50
1891.....	72.8	100	46	5.32
1892.....	73.4	99	46	3.63
1893.....	72.8	99	38	6.52
1894.....	70.9	97	38	2.58
1895.....	71.2	102	34	2.53
1896.....	73.6	105	39	1.83
1897.....	71.0	92	41	4.39
1898.....	74.8	98	42	5.36
1899.....	73.3	99	39	4.36
1900.....	76.3	104	41	2.68
1901.....	73.8	98	44	9.43
1902.....	70.1	93	40	3.91
1903.....	68.4	98	39	6.95
1904.....	70.8	92	37	6.62
1905.....	71.1	95	38	5.72
1906.....	71.6	97	42	5.95



CLIMATOLOGICAL DATA FOR AUGUST, 1906.																					
Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.				Prevailing direction of wind.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.			
THE HIGHLANDS & TATINNY VAL.																					
ton.....	Sussex.....	550	7	71.8	+3.8	96	6	43	16	37	5.03	+0.68	1.72	0	11	17	7	5	s.	Warren C. Hursh.	
sex.....	do.....	412	12	72.6	+2.8	50	* 5	48	16	30	4.16	-0.43	1.00	0	9	17	12	2	sw.	Prof. W. H. Seeley.	
eton.....	do.....	678	26	73.2	+2.0	93	* 5	45	16	41	5.51	+1.04	1.58	0	11	15	9	7	w.	Brice Bowman.	
Charlotteburg.....	Passaic.....	719	14	71.4	+3.6	89	5	42	16	40	4.04	-1.03	1.20	0	10	15	12	1	e.	G. S. Briggs.	
upton Plains.....	Morris.....		3								3.43		0.88	0	13				ne.	River & Flood Service.	
er.....	do.....	575	22	71.8	+2.2	93	6	46	16	37	2.81	-2.46	0.53	0	11	2	18	11	.....	William C. Harris.	
videre.....	Warren.....	289	16	74.2	+2.7	93	6	52	16	31	2.36	-2.78	0.53	0	9	18	6	7	.....	Samuel J. Hixson.	
llipsburg.....	do.....	196	4	75.2	+3.6	94	* 5	54	16	30	4.09	-0.75	1.55	0	13	15	6	10	sw.	D. W. Smith.	
istrict averages.....				72.9	+3.0						3.93	-1.07			11	14	10	7			
THE RED SAND STONE PLAIN.																					
hwh.....	Bergen.....		3								4.71		1.36	0	12				nw.	River & Flood Service.	
er Vale.....	do.....	70	15	73.5	+3.0	92	* 5	47	16	36	6.54	+2.05	2.70	0	9	15	11	5	ne.	A. C. Holdrum.	
erson.....	Passaic.....	110	30	75.6	+3.4	96	6	56	16	29	4.62	-0.38	1.11	0	10	5	19	7	sw.	H. A. Probert.	
glewood.....	Bergen.....	135	16	74.1	+2.2	93	6	54	16	27	4.04	-0.98	1.42	0	11	6	6	19	sw.	William C. Tucker.	
le Falls.....	Passaic.....		3								3.20		1.01	0	16				nw.	River & Flood Service.	
th Orange.....	Essex.....	200	35	73.4	+2.3	91	6	53	16	27	3.90	-1.15	1.64	0	9				w.	W. J. Chandler, M. D.	
thlani.....	Morris.....		3								5.14		0.90	0	17				n.	River & Flood Service.	
ark.....	Essex.....	140	14	75.0	+2.5	94	* 5	55	16	29	2.46	-2.78	1.40	0	12	4	15	12	sw.	Wm. Wiener.	
w York, N. Y.....	New York.....	314	36	75.3	+2.6	93	6	63	25	19	3.68	-0.91	1.37	0	11	6	11	14	s.	U. S. Weather Bureau.	
sey City.....	Hudson.....	15	1	75.9		96	6	59	16	24	2.51		0.90	0	12	5	15	11	.....	Samuel K. Pearson, Jr.	
onne.....	do.....	50	16	75.1	+1.4	94	6	58	16	22	2.52	-2.62	0.94	0	13	7	11	13	se.	John H. Eadie.	
rgen Point.....	do.....	37	9	74.8	+2.6	92	* 5	58	16	23	2.21	-3.51	1.13	0	10	6	16	9	sw.	Dr. W. H. Mitchell.	
abeth.....	Union.....	33	27	75.4	+1.8	95	6	57	16	28	2.59	-2.05		0	7	20	1	10	.....	W. M. Oliver.	
infield.....	do.....	100	16	74.3	+1.6	94	6	55	16	28	3.54	-1.67	1.05	0	14	9	12	10	sw.	John Neagle.	
erville.....	Somerset.....	76	27	75.6	+3.0	96	6	55	16	30	4.12	-0.81	1.05	0	11	14	5	12	sw.	Peter Hardcastle.	
umington.....	Hunterdon.....	187	9	75.0	+2.4	96	6	54	16	32	3.34	-2.07	0.80	0	13	17	6	8	e.	H. E. Deats.	
w Brunswick.....	Middlesex.....	61	53	74.4	+1.9	94	6	54	16	31	3.33	-1.68	1.66	0	10	17	2	12	w.	Win. T. Woerner.	
lege Farm.....	do.....	100	11	74.4	+2.0	93	* 6	55	16	26	3.95	-1.80	1.76	0	8	17	5	9	s.	Miss J. A. Voorhees.	
ubertville.....	Hunterdon.....	95	20	75.8	+3.2	94	6	59	16	25	4.44	-0.18	1.18	0	9	15	7	9	s.	William R. Bowne.	
istrict averages.....				74.8	+2.4						3.73	-1.15			11	11	10	10			
THE SOUTHERN INTERIOR.																					
ghtstown.....	Mercer.....	85	15	74.2	+1.6	92	5	59	16	24	8.02	+3.78	5.17	0	10	13	6	12	sw.	Ernst Wenger.	
anton.....	do.....	60	37	75.4	+0.6	92	6	62	*16	21	6.44	+0.87	1.95	0	10	1	21	9	ne.	E. R. Cook.	
aystown.....	Monmouth.....	106	50	75.4	+2.1	94	6	60	*15	29	8.11	+3.60		0	15	12	9	10	sw.	F. C. Price, M. D.	
ewood.....	Ocean.....	54	6	74.2	+4.3	91	6	60	16	20	8.74	+2.11	3.74	0	14	15	8	8	se.	C. A. Roe.	
erly.....	Burlington.....	30	22	76.0	+2.7	94	6	62	15	25	8.92	+3.92	2.00	0	16	1	12	15	ne.	C. F. Richardson.	
neocas.....	do.....	68	21			95	6	66	15		10.23	+5.53	4.87	0	17	7	4	20	sw.	Spencer Haines.	
own's Mills.....	do.....	71	1	75.0		93	6	56	15	28	8.96		2.82	0	15	11	13	7	se.	F. J. Miller.	
orestown.....	do.....	71	42	75.2	+2.6	92	6	62	*14	24	9.43	+4.87	3.46	0	18	5	8	18	s.	John C. Beans.	
Philadelphia, Pa.....	Philadelphia.....	117	36	76.2	+1.6	94	6	63	25	19	9.56	+1.79	3.14	0	15	5	9	17	sw.	U. S. Weather Bureau.	
ns River.....	Ocean.....	33	15	75.2	+2.6	94	6	59	*15	25	17.91	+1.23	5.80	0	15	9	10	12	sw.	F. G. Bunnell.	
lian Mills.....	Burlington.....	76	6	76.2	+3.6	97	6	60	15	24	12.48	+6.40	7.15	0	14	8	14	9	se.	James Armstrong.	
yton.....	Gloucester.....	126	10	75.7	+2.3	91	6	62	16	23	11.58	+6.31	4.48	0	17				sw.	Wm. T. Farley.	
ckerton.....	Ocean.....	23	9	76.4	+3.6	96	6	64	15	24	11.36	+5.47	2.31	0	15	8	14	9	sw.	F. R. Austin.	
esburg.....	Salem.....	143	14	76.4	+2.8	96	6	62	15	29	7.59	+2.69	2.90	0	17	1	18	12	se.	H. C. Perry.	
eland.....	Cumberland.....	118	39	75.6	+1.8	94	6	62	*15	24	12.51	+7.72	3.54	0	18	7	15	9	sw.	Alfred Chalmers.	
nton.....	Salem.....	24	5								10.27		3.44	0	10	18	3	10	.....	J. H. Maskell.	
ldgeton.....	Cumberland.....	30	20	77.3	+1.7	96	6	63	15	22	7.38	+2.93	2.61	0	11	8	7	16	ne.	Henry A. Jorden.	
asantville.....	Atlantic.....	26	4								9.60		2.95	0	14	12	8	11	.....	L. Van Gilder.	
odbine.....	Cape May.....	43	15	75.1	+2.6	91	* 6	62	*15	20	9.88	+6.38	2.20	0	13	16	7	8	w.	Arthur R. Merrill.	
pe May C. H., C.....	do.....	19	19	75.8	+2.4	96	6	65	*14	18	6.92	+3.15	1.95	0	16	8	11	12	sw.	L. T. Garretson.	
istrict averages.....				75.6	+2.1						9.79	+5.66			14	9	10	12			
THE SEA COAST.																					
dy Hook..... (t).....	Monmouth.....	14	3	75.0		94	6	64	*24	29	4.57		1.94	0	12	4	11	16	sw.	Arthur E. Jewell.	
anic.....	do.....	16	20	73.7	+0.5	91	6	59	16	20	5.01	-0.04	2.43	0	14	14	9	8	sw.	Rev. S. W. Knipe.	
ury Park.....	do.....	22	18	74.8	+2.6	94	6	63	14	21	7.92	+3.28	3.73	0	15	12	6	13	e.	B. H. Obert.	
antic City.....	Atlantic.....	16	31	75.6	+3.5	88	6	66	24	17	8.35	+3.76	2.22	0	15	2	13	16	sw.	Section Center.	
pe May City.....	Cape May.....	17	13	75.7	+2.5	86	6	67	29	13	4.15	-0.62	0.70	0	14	5	19	7	s.	U. S. Weather Bureau.	
istrict averages.....				75.0	+2.3						6.36	+1.60			15	8	12	11			

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records of ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

† Received late; not considered in averages.

DAILY MAXIMUM AND MINIMUM TEMPERATURES FOR AUGUST, 1906.

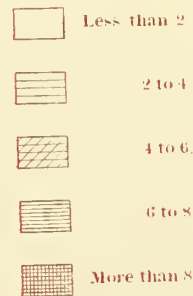
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# Total Monthly Precipitation, August, 1906



SCALE OF SHADES—INCHES.



## TOTAL PRECIPITATION FOR AUGUST, 1906.

Stations.	Day of Month.																															Total.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
THE HIGHLANDS & KITTA-TINNY VALLEY.																																	
Layton		.21	.54	.72				.04				.29								.10	.51	.05		.77			1.72	.08				5.0	
Sussex	.05	.35	.82	.14					T.			.47									.56			.53			1.00	.24				4.1	
Newton		.33	.50	.05			T.	.03				.26								.03	1.58	.04		.51			1.50	.68				5.5	
Charlotteburg		*	1.20	.10				.22			.04										.18			1.03				.47	.80			4.0	
Pompton Plains		.02	.88	.44			*	.52	.06											.25			*	.25	.39	*		.22	.40			3.4	
Dover	T.	.48	.53	.48			.03	.01				.30								.05	.12			.19			*	.65				2.3	
Belvidere		.23	.53	.12								.18								.29	.29			.36	.06			.30				2.3	
Phillipsburg		.17	.60	.07		.01		.13	.01			.16								T.	.84			.37	.01	.02	1.55	.08				4.0	
THE RED SAND STONE PLAIN.																																	
Mahwah		T.	1.35	.16			*	1.1	.01												.68		*	.57	.35	*	.31	.65				4.7	
River Vale	.28	.42	.64	.50			*	2.70																			.70	.10				5.5	
Paterson	T.	.45	1.11	.23		T.	*	1.10		T.		.08								T.	.05			.27		T.	.43	.20				4.6	
Englewood		.91	.23	.0			1.42	.03				.7									.49			.03		.06			.05			4.0	
Little Falls		.10	.90	.11			*	.06	.05			.03	.02								.49	.03		.62	.08		.18	.35				3.2	
South Orange	1.10	.16		.10			1.64	.08		T.	*	.21								T.	.27		T.	.09		T.	.35		T.			3.5	
Chatham		.20	.76	.03			*	.00	.20		*	.04	.81								.27		*	.28	.15		.70	.15				5.1	
Newark		1.40	.06	.07			.48	.02		.01	.01	.03								.02	.06		.23	T.		.03	.05					2.4	
New York, N. Y.		.85	.16	.06			1.36	.02		T.	.68	.03								.44			.02		.03	.05		.01				3.6	
Jersey City		.20	.90	.05			.36	T.	.02	T.	.53									.15			T.		.02	.07	.02	.01	.01			2.5	
Bayonne	T.	.94	.43	.27			.22	.05	.02	T.	.34	T.								.12	T.		.01		.02	.06	.02	.02	T.			2.5	
Bergen Point		1.13	.40	.04			.05	.07		T.	.12										.11			.16		.10	.03					2.2	
Elizabeth	*	1.52				T.			T.		.52										.31			.14		T.	.10					2.5	
Plainfield	.02	1.05	.28	.21		.01		.38	.35	T.	.18										.64	T.		.08		.03	.22	.02	.04			3.5	
Somerville		.60	.37	1.05			.07	T.	.03		.16										.26	T.		.27		.35	.03		.02			4.1	
Flemington		.68	.80	.02			.04	.04	.09	T.	.36									.09	.71	T.		.10	.11	T.	.25	.05	T.			3.3	
New Brunswick	T.	1.66	.41	.11		T.		.15			.11									.21			.06	T.	.08	.16	T.	.08				3.3	
College Farm		1.76	.60	.13			T.	.19			.23										.55				T.	.39		.10				3.5	
Lambertville		1.18	1.16					.91		T.	.11										.45			T.	.02	.20		.21	.20			4.4	
THE SOUTHERN INTERIOR.																																	
Hightstown	T.	5.17	.10	.10			.33	.48			T.									T.				.15	.19		.82	.03	.35			8.0	
Trenton	T.	1.95	.44				.36	.26			.05									T.	1.36	T.		.16	.98	T.	.46	T.	.38			6.0	
Imlaystown	*	*	*	3.85			.06	.58		.02	T.										.13	.04		*	1.14	*	*	1.36				8.0	
Lakewood	.50	3.74	.97	.03			1.52	.38													.02	.18		.48	.10		.11	.06	.60	.08		8.0	
Beverly	.10	2.00	2.00	.05			.13	.47		T.	.50	.05									.01	.04			.65	.13	1.49	.71	.55	.04		10.0	
Rancocas	.02	2.50	2.37	.10			.53	.10	.15	.37		T.								T.	.05			.01	.03		2.63	.20	.40	.30		8.0	
Brown's Mills	.41	2.82	1.51				.20	.40			.01	.04									.06			.85	.10	.05	.21	.08	.75	.05		8.0	
Moorestown	.06	3.40	1.90	.10			.10	.07	.06	.15		.01	.04							T.	.10			.27	.16	.06	2.13	.09	.61	.12		9.0	
Philadelphia, Pa.	T.	2.48	.42	.38		T.	.15	.09	.10		T.									T.	.11			3.03	.20	1.02	.10	.32	.03			9.0	
Toms River	*	9.95	.10			T.	.11	3.26	.06	.08	T.	T.									2.40	T.		*	.60	.10	.30		.95			17.0	
Indian Mills	.42	7.15	.32	.20							.33	.40	.03								.16			.88	T.	.08	.77	.42	1.25	.07		12.0	
Clayton	.30	4.48	.05	.37			1.02		.08	.15	.50	.05									.23		*	*	*	2.65	.81	.32	.07			11.0	
Tuckerton	2.31	.80	.50				2.10	.21			1.20	.10									.46		.07	.36	.46	.12	.87	.76	1.04			11.0	
Friesburg	.31	2.90	.13	.08			.35			.62	.27	.14								.09	.12		.02	.01	.08	.79	.83	.74	.11			7.0	
Vineland	3.54	3.41	.03	.23			1.00		.15	.16	.35	.15									.11	.17	.03	1.42	.03	T.	.11	.69	.91	.02		12.0	
Canton	.96	1.26	.74			T.		T.			1.06		.21								.12			3.44		.21	.44		1.83			10.0	
Bridgeton	.71	2.60	.10	T.			.41			1.17		.41									.15					.08	.40	.77	.58			7.0	
Pleasantville	.40	.53					2.05			.40	1.70	.12									.12	.12	1.05	.23		.70	1.25	.90	.03			9.0	
Woodbine	2.10		.20	.27			.10			2.20	.65											.53	.12		.53		.19	.85	.87	.27		9.0	
Cape May C. H.	.28	.02	T.				.64		T.		.37	.36	.25									1.08	.40	.02	.33	.17	.18	1.95	.80	.05	.02	6.0	
THE SEA COAST.																																	
Sandy Hook		1.94	.09	.05			.94	.10	.02	T.											.25			.20	.20	.06	.48		.24			4.0	
Oceanic	.03	2.43	.41	.04			1.16	.11	.05	.03											.10	T.		.06		.05	.10	.03	.41			5.0	
Asbury Park	.09	3.73	.86	.04		*	.13	1.01		.15											.08			.15	.70	.03	.10	.10	.61	.14		7.0	
Atlantic City	.33	.22	T.				.49	T.	.01	.04	2.03	.09										.24	T.	2.06	.16	.03	.97	.69	.93	.06		8.0	
Cape May City	.48	T.	.20			T.		T.	T.		.15	.50	.35									T.	.13	.02	.05	.13	.08	.55	.70	.69	.12		4.0

|| Precipitation measured at 8 a. m., 75th meridian time.

\* Precipitation included in that of following day.

T. Indicates amount too small to measure.



U. S. DEPARTMENT OF AGRICULTURE

REPORT FOR SEPTEMBER, 1906.

NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

UNDER DIRECTION OF

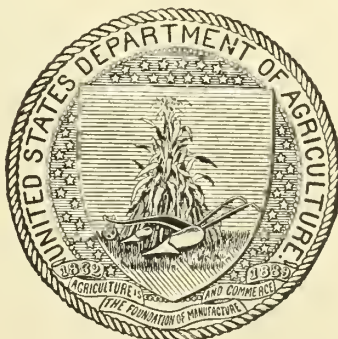
WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.

WEATHER BUREAU OFFICE

OCTOBER 20, 1906

# Monthly Mean Isotherms and Prevailing Winds, September, 1906.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

XIX. ATLANTIC CITY, N. J., SEPTEMBER, 1906. No. 9.

## GENERAL SUMMARY.

September, 1906, was an exceptionally pleasant month, its chief characteristics being ample sunshine, high mean temperature and light precipitation, with about the average percentage of relative humidity. Several well-defined warm and cool periods occurred during the month. From the 7th to the 13th, inclusive, and from the 18th to the 21st, inclusive, the weather was unusually warm for the season, the maximum temperatures on the 10th and 19th ranging from 87 to 94°. The principal cool periods of the month extended from the 14th to the 17th, inclusive, and from the 25th to the 30th, inclusive. The absolute maximum temperature, 94°, was about the average, but the absolute minimum, 33°, was higher than usual. The month was one of the few Septembers in many years without an absolute minimum temperature of 32°, or lower. The first light frosts of the season, unattended by injurious results, occurred on the 25th in the extreme northern counties, the minimum temperatures in the frost area ranging from 33 to 43°.

Except over very limited and widely-separated areas, namely, portions of Bergen, Burlington and Essex counties, the rainfall of September was much below the average, especially over the southern half of the State, where at several stations the monthly amounts were less than 1 inch. The most pronounced district deficiencies, averaging nearly 2 inches, occurred in the Southern Interior and the Sea Coast sections, the local negative departures exceeding 3 inches in some instances. During the first decade there was only one day with rain—the 3d. The second decade was marked by a showery period extending from the 12th to the 15th, inclusive, the rainfall on the 12th–13th being heavy at numerous stations in the Red Sand Stone Plain and Southern Interior divisions. The third decade was generally showery, with heavy rains on the 22d in parts of the Red Sand Stone Plain counties.

Local storms of severity occurred in portions of Burlington, Essex and Hudson counties on the 12th–13th, and in Somerset County on the 22d, but the damage to property was immaterial. Brisk to high northeast winds, attending the northward movement at sea of a low barometric area, occurred on the 15th and 16th.

## TEMPERATURE.

The monthly mean, 68.9°, was 3.0° above the normal, and 3.5°

above the mean for the corresponding month of 1905.

The means for the various districts were as follows: The Highlands and Kittatinny Valley, 66.4°; Red Sand Stone Plain, 69.0°; Southern Interior, 69.7°; Sea Coast, 70.6°.

The highest monthly mean was 71.4°, at Sandy Hook, and the lowest, 64.2°, at Layton.

The absolute maximum was 94°, at Bayonne, on the 10th, at Paterson, on the 10th and 19th, and at Somerville, on the 19th, and the absolute minimum, 33°, at Layton, on the 25th.

The absolute range for the State was 61°.

The greatest local monthly range was 57°, at Layton, and the least, 33°, at Asbury Park and Sandy Hook.

The greatest daily range was 45°, at Newton, on the 6th.

## PRECIPITATION.

The average, 2.19 inches, was 1.70 inches below the normal, and 3.04 inches below the average for the corresponding month of 1905.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 2.41 inches; Red Sand Stone Plain, 2.75 inches; Southern Interior, 1.91 inches; Sea Coast, 1.69 inches.

The greatest monthly amount was 4.66 inches, at Rancocas, and the least, 0.75 of an inch, at Asbury Park.

The greatest amount in any 24 consecutive hours was 4.22 inches, at Rancocas, on the 12th–13th.

The average number of days with a measurable amount was 7.

Excessive precipitation (2.50 inches, or more, in any 24 consecutive hours) occurred as follows: Rancocas, 12th–13th, 4.22 inches (4 inches in 90 minutes); Moorestown, 12th–13th, 3.52 inches (12 hours); Atlantic City, 13th, 1.10 inches (in 60 minutes).

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 15; partly cloudy, 9; cloudy, 6. At Atlantic City the duration of sunshine was 66 per cent of the possible amount.

## WIND.

The prevailing direction was west.

## MISCELLANEOUS PHENOMENA.

*Hail*.—Beverly, 12th.

*Rainbows*.—Indian Mills, 12th; Sandy Hook, 19th.

*Auroras*.—Somerville, 13th; Moorestown, Vineland, 22d.

*Halos, solar*.—Atlantic City, 30th; Cape May City, 26th, 30th; Rancocas, 2d.

*Halos, lunar*.—Atlantic City, Cape May Court House, 29th; Hightstown, 28th; Newark, 1st, 5th, 30th; Oceanic, 29th; Sandy Hook, 28th, 29th; Toms River, 27th; Trenton, 28th, 29th.

*Thunderstorms* (dates and number of stations reporting): 3d, 16; 4th, 1; 12th, 26; 13th, 16; 14th, 1; 19th, 9; 20th, 9; 21st, 2; 22d, 18; 30th, 7. At Weather Bureau stations thunderstorms occurred as follows: Atlantic City, 3d, 12th, 13th, 22d; Cape May City, 12th, 13th, 15th, 22d. Total number of reports, 113.

*Fog*.—Atlantic City, 18th, 19th; Asbury Park, 12th; Beverly,

7th, 10th, 11th, 18th, 19th, 21st; Cape May City, 10th, 11th, 18th, 19th; Hightstown, 7th, 8th, 11th, 12th, 18th, 22d; Im-laystown, 11th, 18th, 25th; Indian Mills, 18th, 19th; Lambert-ville, 2d, 6th, 18th; Moorestown, 9th, 11th, 12th, 18th, 19th, 20th; New Brunswick, 18th; Oceanic, 11th, 18th; Phillipsburg, 6th, 7th, 13th, 18th, 19th, 30th; Plainfield, 17th, 18th; Sandy Hook, 12th, 13th, 14th, 17th, 18th, 20th, 21st; Somerville, 10th, 14th; Toms River, 11th, 12th, 18th; Trenton, 11th, 18th; Vine-land, 12th, 13th, 18th, 19th.

### Corrections.

August, 1906.—Page 61: Layton, maximum temperature, published 96°, should read 92°; Cape May C. H., maximum temperature, published 96°, should read 91°.

### CLIMATOLOGY OF PLAINFIELD, N. J.

The city of Plainfield (population about 25,000) is situated in the extreme southwestern part of Union County, in the Red Sand Stone Plain section of New Jersey, latitude 40°, 38 min. N., and longitude 74°, 24 min. W. The surrounding country is generally level. The elevation of the ground above sea level in the vicinity of the cooperative meteorological station is about 100 feet. Weather records for Plainfield date from August, 1888, but for the period extending from February, 1890, to May, 1892, inclusive, the series of observations is incomplete. In the first part of June, 1892, the observations were resumed by Mr. John Neagle, the present observer, and for a period of 14 years valuable data have been regularly received at the Section Center. The meteorological instruments at Plainfield are standard Weather Bureau. They are exposed in a proper manner, the thermometer shelter being over sod, in an open yard, at the residence of the observer. The rain gage is on the ground and is about 25 feet from the nearest high objects. The daily observation is taken at 8 p. m., 75th meridian time. The temperature extremes at Plainfield for a period of about 16 years are given in the following table:

TEMPERATURE EXTREMES.

Month.	Absolute maximum.	Year.	Absolute minimum.	Year.	Highest monthly mean.	Year.	Lowest monthly mean.	Year.
January .....	70	1906	-13	1904	38.3	1890	21.8	1904
February .....	67	1903	-9	1899	33.4	1892	22.5	1905
March .....	82	1905	2	1900	47.0	1903	33.7	1906
April .....	96	1896	15	1898	53.1	1896	46.3	1904
May .....	97	1895	30	1906	65.2	1896	57.6	1898
June .....	100	1893	39	1897	73.4	1892	63.8	1903
July .....	105	1892	46	1899	77.4	1901	71.9	1889
August .....	98	1892	45	1888	76.8	1900	68.2	1903
September .....	102	1895	31	1904	70.8	1895	61.4	1888
October .....	88	1897	22	1900	58.7	1900	48.3	1888
November .....	74	1888	12	1891	47.7	1896	36.8	1901
December .....	68	1889	-1	1896	41.5	1891	25.1	1904

a, also 1896 and 1900.

b, also 1903.

c, also 1903.

The mean annual temperature is 51.4°. The average temperatures for the several seasons are as follows: Winter, 29.9°; Spring, 49.6°; Summer, 72.2°; Autumn, 53.9°. The normal monthly temperatures are: January, 28.7°; February, 28.5°; March, 38.6°; April, 49.4°; May, 60.7°; June, 69.3°; July,

74.5°; August, 72.8°; September, 65.8°; October, 54.0°; November, 42.0°; December, 32.4°. Beginning with February, the coldest month of the year, the normal monthly temperatures increase until July at an average rate of 10°, and beginning with August they decrease about 10° each month to the end of the year. The summer temperatures are usually at their maximum during July, this month having a normal temperature of 74.5°, or 5.2° higher than the normal for June, and 1.7° higher than the average for August. Although February is named the coldest month, its average temperature is practically co-incident with the average for January, the difference between the normals being merely a fraction of a degree. The highest annual temperature on record for the station is 52.9° (1900), and the lowest is 48.9° (1904). The coldest winters were those of 1903-4 and 1904-5, when the temperatures averaged 24.3° and 24.5°, respectively, or about 5° below the normal. The winter of 1891-2 was exceptionally mild, its mean temperature having been 34.8°, or nearly 5° above the normal, and 1.3° higher than the mean for the remarkably mild winter of 1905-6. The warmest summers occurred in 1892 and 1900—mean temperatures 74.8° and 74.4°, respectively. The summer of 1903 (68.6°) was unusually cool.

The absolute maximum temperature is 105° (July 26, 1892)—a temperature of 104° occurred in July, 1901. August has been entirely free from temperatures of 100°, and only one such value is on record for June. September has had a maximum temperature of 102° on two successive days, viz., 21st and 22d, 1895. The absolute minimum temperature is -13°, for January 5, 1904. Zero temperatures are more frequent in February than in January—in December they are infrequent. Temperatures of 32°, or lower, have invariably occurred in October, November, March and April, but May and September are, as a rule, free from freezing weather.

The average length of the growing season in and around Plainfield is 165 days, the average date of the last killing frost in spring being April 28, and of the first killing frost in autumn, October 10. Destructive frosts have occurred, however, in some years in May and September.

(To be concluded.)

### Comparative Data for September.

Year.	Temperature.			Average precipitation
	Mean.	Highest.	Lowest.	
1887.....	61.6	92	30	3.66
1888.....	63.1	96	30	7.09
1889.....	64.8	90	34	8.36
1890.....	64.4	91	33	4.75
1891.....	68.7	94	39	2.46
1892.....	64.2	90	33	1.81
1893.....	62.7	90	31	3.20
1894.....	68.8	97	31	7.46
1895.....	69.7	109	29	1.07
1896.....	65.1	99	30	4.37
1897.....	65.5	99	30	1.65
1898.....	68.6	100	31	2.00
1899.....	64.4	93	30	5.88
1900.....	69.9	98	32	2.86
1901.....	66.8	94	29	3.38
1902.....	64.6	93	30	5.65
1903.....	65.0	92	29	3.34
1904.....	64.8	93	23	4.79
1905.....	65.4	90	28	5.23
1906.....	68.9	94	33	2.19



## CLIMATOLOGICAL DATA FOR SEPTEMBER, 1906.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing direction of wind.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.			Number cloudy days.
THE HIGHLANDS & KITTATINNY VAL.																				
Dayton	Sussex	550	7	61.2	+1.9	60	19	53	25	37	1.62	-2.71	0.72	0	6	24	3	3	w.	Warren C. Hursh.
Essex	do	442	12	66.3	+2.4	88	*10	40	25	31	2.31	-1.76	0.84	0	6	19	8	3	w.	Prof. W. H. Seeley.
Lawton	do	678	26	66.4	+2.4	92	19	36	25	45	2.51	-1.27	0.70	0	8	19	8	3	w.	Brice Bowman.
Charlotteburg	Passaic	719	14	66.3	+4.3	89	10	31	*25	36	2.57	-2.37	1.03	0	7	18	10	2	w.	G. S. Briggs.
Compton Plains	Morris		3								3.52		1.48	0	9				nw.	River & Flood Service.
Over	do	575	22	64.8	+2.0	92	19	37	25	36	1.88	-2.26	0.60	0	7	9	12	9		William C. Harris.
Elvidere	Warren	289	16	68.0	+2.5	91	*10	40	25	38	2.54	-1.25	0.72	0	7	20	1	9		Samuel J. Hixson.
Phillipsburg	do	196	4	69.1	+4.1	91	19	43	25	32	2.36	-1.41	0.78	0	7	20	5	5	w.	D. W. Smith.
District averages.				66.4	+3.0						2.41	-1.72			7	18	7	5	w.	
THE RED SAND STONE PLAIN.																				
Lahwah	Bergen		3								3.75		1.68	0	5				nw.	River & Flood Service.
Living Vale	do	70	15			92	10	40	2	38	4.11	+0.21	1.60	0	6	19	2	9	nw.	A. C. Holdrum.
Waterson	Passaic	110	30	69.5	+3.1	94	*10	44	25	36	1.82	-2.71	0.61	0	8	11	16	3	nw.	H. A. Probert.
Englewood	Bergen	135	16	66.8	+1.8	88	19	45	26	28	2.57	-1.11	1.01	0	7	17	4	9	nw.	William C. Tucker.
Little Falls	Passaic		3								2.29		0.98	0	7				ne.	River & Flood Service.
South Orange	Essex	200	35	66.8	+2.9	87	*10	46	*25	28	4.22	+0.18	2.00	0	7	16	7	7	w.	W. J. Chandler, M. D.
Hamham	Morris		3								1.66		0.35	0	10				w.	River & Flood Service.
Newark	Essex	140	14	69.3	+3.4	92	19	45	25	30	3.54	-0.28	1.48	0	8	13	9	8	sw.	Wm. Wiener.
New York, N. Y.	New York	314	36	70.2	+3.8	90	10	54	16	43	2.54	-1.03	1.04	0	8	13	8	9	ne.	U. S. Weather Bureau.
Jersey City	Hudson	15	1	70.4		93	10	50	*25	28	2.81		1.19	0	8	14	8	8	sw.	Samuel K. Pearson, Jr.
Wayne	do	50	16	69.1	+1.3	94	10	46	25	30	3.07	-0.40	1.43	0	8	16	9	5	se.	John H. Eadie.
Weymouth Point	do	37	9	69.0	+2.5	91	10	48	25	29	3.00	-1.46	1.28	0	8	11	15	4	se.	Dr. W. H. Mitchell.
Elizabeth	Union	33	27	70.0	+3.1	91	10	49	*25	31	2.12	-2.11	0.83	0	6	22	3	5	sw.	W. M. Oliver.
Lainfield	do	100	16	68.0	+2.2	91	*10	44	25	32	2.82	-2.07	1.77	0	8	14	11	5	sw.	John Neagle.
Homerville	Somerset	76	27	69.2	+3.0	94	19	42	26	34	2.33	-1.56	1.51	0	8	16	5	9	se.	Peter Hardecastle.
Livingston	Hunterdon	187	9	69.1	+2.7	93	19	44	26	36	2.79	-1.63	1.95	0	7	22	4	4	sw.	H. E. Deats.
Old Brunswick	Middlesex	61	53	69.0	+3.1	91	*10	44	25	34	3.05	-0.77	1.96	0	9	21	2	7	w.	Wm. T. Woerner.
College Farm	do	100	11	68.6	+2.3	92	19	44	*25	33	1.93	-2.04	1.02	0	5	20	7	3	s.	Miss J. A. Voorhees.
Amertville	Hunterdon	95	20	69.6	+3.7	90	19	42	25	32	1.14	-3.39	0.57	0	4	20	8	2	sw.	William R. Bowne.
District averages.				69.0	+2.8						2.75	-1.31			8	17	7	6	sw.	
THE SOUTHERN INTERIOR.																				
Lightstown	Mercer	85	15	67.8	+1.1	90	19	44	26	31	1.07	-2.64	0.50	0	4	13	9	8	sw.	Ernst Wenger.
Lawton	do	60	37	69.5	+1.1	88	10	48	*25	37	0.89	-3.11	0.35	0	5	5	21	4	sw.	E. R. Cook.
Lawlaxtown	Monmouth	106	20	69.4	+2.8	91	10	43	25	36	1.27	-3.39	0.82	0	7	17	9	4	w.	F. C. Price, M. D.
Lawlaxwood	Ocean	54	6	68.6	+3.4	89	19	46	26	27	0.86	-2.61	0.32	0	7	18	11	1	w.	C. A. Roe.
Lawlax	Burlington	30	22	69.9	+3.0	91	10	46	25	30	2.52	-1.18	2.25	0	6	10	12	8	ne.	C. F. Richardson.
Lawlax	do	68	21			89	20	47	25		4.66	+0.60	4.22	0	6	15	4	11	sw.	Spencer Haines.
Lawlax	do	71	1	68.4		91	19	45	*2	36	2.68		1.52	0	4				sw.	F. J. Miller.
Lawlax	do	71	42	69.2	+3.4	89	10	45	25	29	3.99	+0.31	3.52	0	6	13	9	8	n.	John C. Beaus.
Philadelphia, Pa.	Philadelphia	117	36	71.2	+3.2	91	10	51	25	25	0.36	-2.97	0.13	0	7	12	9	9	sw.	U. S. Weather Bureau.
Lawlax	Ocean	33	15	69.0	+2.5	93	19	40	26	34	2.91	-0.49	1.95	0	6	15	9	6	se.	F. G. Bunnell.
Lawlax	Burlington	76	6	70.0	+3.1	93	19	45	*25	37	0.92	-3.78	0.43	0	6	15	10	5	se.	James Armstrong.
Lawlax	Gloucester	126	10	70.1	+2.9	90	*10	47	25	29	1.93	-1.79	1.31	0	6	18	7	5	w.	Wm. T. Farley.
Lawlax	Ocean	23	9	69.2	+3.0	91	10	44	25	30	2.07	-1.44	0.88	0	5	16	8	6	ne.	H. C. Perry.
Lawlax	Salem	100	14	70.5	+3.1	91	10	48	*6	35	1.63	-2.32	0.72	0	7	12	12	6	ne.	Alfred Chalmers.
Lawlax	Cumberland	118	39	70.2	+3.3	91	*10	46	25	36	1.23	-2.56	0.64	0	4	18	8	4	se.	J. H. Maskell.
Lawlax	Salem	24	5								2.00		0.94	0	5	21	8	1		Henry A. Jorden.
Lawlax	Cumberland	30	20	70.9	+2.2	92	21	47	25	33	0.91	-2.61	0.26	0	5	17	5	8	ne.	L. Van Gilder.
Lawlax	Atlantic	26	4								2.73		1.25	0	7	18	6	6		Arthur R. Merrill.
Lawlax	Cape May	43	15	70.1	+3.4	91	10	45	25	38	1.06	-3.14	0.35	0	6	21	6	3	w.	L. T. Garretson.
Lawlax	do	19	19	70.2	+2.4	88	10	47	25	30	2.46	-0.59	1.78	0	5	11	12	7	ne.	
District averages.				69.7	+3.4						1.91	-1.85			6	15	9	6	sw.	
THE SEA COAST.																				
Lawlax	Monmouth	14	3	71.4	+4.6	91	19	58	*16	24	1.73	-3.00	0.87	0	9	8	11	11	w.	Arthur E. Jewell.
Lawlax	do	16	20	69.5	+2.0	88	19	52	*2	26	1.84	-2.49	0.63	0	8	16	11	3	w.	Rev. S. W. Knipe.
Lawlax	do	22	18	71.1	+4.0	89	19	56	6	24	0.75	-2.60	0.62	0	4	14	11	5	se.	B. H. Obert.
Lawlax	Atlantic	16	31	70.6	+3.6	91	10	56	6	22	2.94	-0.20	1.49	0	8	7	12	11	ne.	Section Center.
Lawlax	Cape May	17	13	70.4	+2.3	87	10	50	25	18	1.18	-2.40	0.48	0	8	10	12	8	s.	U. S. Weather Bureau.
District averages.				70.6	+3.0						1.69	-1.92			7	11	11	8	w.	

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

† Received late; not considered in averages.

[illegible]



# Total Monthly Precipitation, September, 1906



## TOTAL PRECIPITATION FOR SEPTEMBER, 1906.

Stations.	Day of Month.																															Total.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
THE HIGHLANDS & KITTA-TINNY VALLEY.																																	
Layton .....			.72									.04								.10	.42	.08					.26					1.62	
Sussex .....			.84									.03								.10	.66	.43					.25					2.31	
Newton .....			.66									.15	.01							.70	.05	.10	.47				.37					2.51	
Charlotteburg .....			.68								.08		.13									.30	1.03			.30		.11	.09		.05		2.57
Pompton Plains .....			.50	.07								.10	.09	T.						.83	.13	T.	1.48				.22			.12		3.52	
Dover .....			.60									.16	.02							.05		.60					.22			.23		1.88	
Belvidere .....			.72									.62								.18	.25	.10					.53			.14		2.54	
Phillipsburg .....			.71									.07								.17	.21	.02					.40			.78		2.36	
.....																																	
.....																																	
THE RED SAND STONE PLAIN.																																	
Mahwah .....			.41									T.	.24							*	1.09	*	1.68				.28		.05		T.		3.75
River Vale .....			.46									*	1.60								.35						1.45			.25			4.11
Paterson .....			.43									.20	.20	.04					T.	.03		.61					.26		T.	.05		1.82	
Englewood .....			.31									1.01	.53							.08		.39					.19			.06		2.57	
Little Falls .....			.36	.06								.13	.02	.31						*	.05	.14	.84				.15	.12		.11		2.29	
South Orange .....			.10									.10	2.00							.09	T.	1.40					.18			.35		4.22	
Chatham .....			.30	.05								.25	.05	.06						*	.09	*	.28				.15	.08		.35		1.66	
Newark .....			.08									.06	1.48							.04		1.37					.23		.03	.25		3.54	
New York, N. Y. ....			.24									.96	.61							.07	.02	.34					.22		T.	.08		2.54	
Jersey City .....			.11									1.07	.80	.02						.06		.46					.19		T.	.10		2.81	
Bayonne .....			.19									.76	.41	1.02	T.					.18		.33	T.				.17		T.	.01		3.07	
Bergen Point .....			.23									.66	1.28	.02						.16		.47					.17		T.	.01		3.00	
Elizabeth .....			.38									.13	.83							.28	.35						.15					2.12	
Plainfield .....			.25									.03	.45							.09	.02	1.77					.16			.05		2.82	
Somerville .....			.42									.04	.01							.12	.02	1.51					.18			.03		2.33	
Flemington .....			.32									.02								.19	.04	1.95	T.				.18		T.	.09		2.79	
New Brunswick .....			.24									.01	.05						.11	.18	.35	1.96					.14			.01		3.95	
College Farm .....			.27											.14						.18	T.	1.02					.32			T.		1.93	
Lambertville .....			T.									T.	.09							.31		.57					.17			T.		1.14	
.....																																	
.....																																	
THE SOUTHERN INTERIOR.																																	
Hightstown .....												.40	.50							T.	.12		.05					T.				1.07	
Trenton .....			.09									T.	.07	.28						.27		.27					.18					0.89	
Imlaystown .....			.01									.82								.02	.03	.02					.36			.01		1.27	
Lakewood .....			.08										.32	.02						.04	.30		.06				.06			.04		0.86	
Beverly .....			T.									2.20	.05							.04		.03					.10			.10		2.52	
Rancocas .....			.27									4.00	.22	T.						.02		T.					.12			.03		4.66	
Brown's Mills .....			.20									1.52	.70																	.26		2.68	
Moorestown .....			.30									.90	2.62	T.	T.							.03					.10			.04		3.99	
Philadelphia, Pa. ....			.13									.02	.02	T.						.01		.05					T.	.11		T.	.02	0.36	
Toms River .....			.21									1.95	.17							.02	.02	.36					.20			T.		2.91	
Indian Mills .....			.03									T.	.18	.09						T.		.43	.03				.16					0.92	
Clayton .....			.07									.08	T.	.22						T.		1.31					T.	.15		T.	.10	1.93	
Tuckerton .....			.17										.88									.45					.12			.45		2.07	
Friesburg .....			.35									.05		.01						.01		.72					.06			.43		1.63	
Vineland .....			.43									.04								T.		.12					T.			.64		1.23	
Canton .....			.16									.94		.07								.78					.05			T.	T.	2.00	
Bridgeton .....			.15									.25										.26					.15			.10		0.91	
Pleasantville .....			.10									.02	1.25		.03							.50					.11			.72		2.73	
Woodbine .....												.20	.31	.01								.06					.35			.13		1.06	
Cape May C. H. ....												.16	.47	1.78	.04								T.				T.			T.		2.46	
.....																																	
.....																																	
THE SEA COAST.																																	
Sandy Hook .....			.29									.27	.60	.01						.03	.05	.12	.20				.16					1.73	
Oceanic .....			.25									.52	.63							T.	.05	.09	.20				.07			.03		1.84	
Asbury Park .....			.07										.62	T.					T.	T.	T.	T.					.05			.01		0.75	
Atlantic City .....												.29	1.20	T.	.02							.72	.01				.11			.46		2.94	
Cape May City .....			T.									.16	.48	.01	.06				T.	T.		.10	.05				.06			.26		1.18	
.....																																	
.....																																	

|| Precipitation measured at 8 a. m., 75th meridian time.

\* Precipitation included in that of following day.

T. Indicates amount too small to measure.



UNWJ  
U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR OCTOBER, 1906.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF

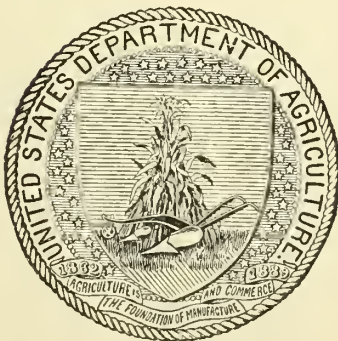
WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.

WEATHER BUREAU OFFICE

NOVEMBER 20, 1906

# Monthly Mean Isotherms and Prevailing Winds, October, 1906.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

XIX. ATLANTIC CITY, N. J., OCTOBER, 1906. No. 10.

## GENERAL SUMMARY.

Noteworthy features of the month were excessive cloudiness and an abnormally large wind movement. Sunshine was much below the normal, the average duration for the State being only about 40 per cent of the possible amount. The total wind movement at coast stations exceeded 8,000 miles.

The temperature averaged about the normal, the greatest excess occurring in the extreme north and the greatest deficiency in parts of the Red Sand Stone Plain and the Southern Interior districts. Moderate temperature prevailed during the first decade and again from the 15th to the 28th, inclusive. As a rule, the maximum temperatures for the month, ranging from 72 to 80°, were recorded on the 5th and 9th. The coldest weather occurred from the 11th to the 14th, inclusive, and during the three last days of the month. Minimum temperatures of less than 32°, together with the first destructive frosts of the season, occurred over much the greater portion of the State on the 12th and 13th. The absolute minimum temperature for the month (11°) is the lowest that has been recorded in October in a period of 20 years.

The average precipitation was slightly above the normal, altho in portions of Cape May, Cumberland, Mercer, Middlesex, Passaic and Sussex counties the total falls (less than 4 inches) were slightly below the normal. Along the coast line of Atlantic and Ocean counties and in the western part of Warren County, the rainfall, ranging from 5.50 to about 7 inches, was decidedly above the normal. Elsewhere, the totals for the month were about the usual. Periods of generally fair weather extended from the 11th to the 18th, inclusive, and from the 26th to the 30th, inclusive, with these exceptions the month was generally stormy. Snow flurries occurred on the 11th and 31st. Brisk to high northeast winds were general during the latter part of the second and the first part of the third decade.

## TEMPERATURE.

The monthly mean, 55.0°, was practically normal, and 0.5° below the mean for the corresponding month of 1905.

The means for the various districts were as follows: The Highlands and Kittatinny Valley, 52.6°; Red Sand Stone Plain, 54.8°; Southern Interior, 55.6°; Sea Coast, 56.8°.

The highest monthly mean was 57.6°, at Cape May City, and the lowest, 50.2°, at Dover.

The absolute maximum was 80°, at Bridgeton, on the 5th, and at Oceanic, on the 9th, and the absolute minimum, 11°, at Layton, on the 13th.

The absolute range for the State was 69°.

The greatest local monthly range was 65°, at Layton, and the least, 36°, at Asbury Park.

The greatest daily range was 45°, at Layton, on the 13th.

## PRECIPITATION.

The average, 4.46 inches, was .63 of an inch above the normal, and 1.75 inches above the average for the corresponding month of 1905.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 4.26 inches; Red Sand Stone Plain, 4.25 inches; Southern Interior, 4.56 inches; Sea Coast, 4.77 inches.

The greatest monthly amount was 7.14 inches, at Toms River, and the least, 2.66 inches, at Mahwah.

The greatest amount in any 24 consecutive hours was 2.98 inches, at Flemington, on the 5th.

The average number of days with a measurable amount was 11.

Excessive precipitation (2.50 inches, or more, in any 24 consecutive hours) occurred as follows: Flemington, 5th, 2.98 inches; Atlantic City, 21st-22d, 2.77 inches; Lambertville, 5th, 2.64 inches; Toms River, 5th, 2.60 inches.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 8; partly cloudy, 9; cloudy, 14. At Atlantic City the duration of sunshine was 42 per cent of the possible amount—the lowest percentage on record for October in a period of 10 years. At Jersey City the estimated amount of sunshine was 40 per cent of the possible, and at Phillipsburg, 41 per cent. At Moorestown the average cloudiness (scale 0 to 10) was 6.7.

## WIND.

The prevailing direction was northeast. At Atlantic City the total movement was 8,535 miles, average hourly velocity, 11.5 miles; at Jersey City, total movement, 10,657 miles, average hourly velocity, 14.3 miles.

## MISCELLANEOUS PHENOMENA.

*Meteor.*—Rancocas, 14th.

*Rainbow.*—Rancocas, 9th.

*Halos, solar.*—Layton, 1st, 16th.

*Hail.*—Canton, Clayton, Indian Mills, Toms River, 9th.

*Sleet.*—Cape May C. H., 31st; New Brunswick, Plainfield, 11th.

*Halos, lunar.*—Asbury Park, 29th; Bergen Point, 1st, 29th; Beverly, 29th; Moorestown, 28th; Rancocas, 9th, 29th; Trenton, 29th.

*Thunderstorms* (dates and number of stations reporting): 4th, 2; 5th, 14; 6th, 1; 9th, 20; 20th, 1. At Weather Bureau stations thunderstorms occurred as follows: Atlantic City, 4th, 5th, 6th, 9th, 31st. Total number of reports, 43.

*Fog.*—Atlantic City, 23d; Cape May City, 5th, 18th to 23d;

Bergen Point, 6th, 23d; Beverly, 23d, 24th, 26th; Hightstown, Indian Mills, 23d; Lambertville, 14th; Paterson, 15th; Phillipsburg, 13th, 23d; Plainfield, 5th; Somerville, 6th; Toms River, 5th, 23d; Trenton, 6th, 23d, 27th.

### REMARKS BY OBSERVERS.

*Bergen Point*: The month was abnormally cloudy. Thin ice formed in exposed places on the 12th.—DR. W. H. MITCHELL.

*Dover*: The weather during the month, except from the 10th to the 18th, inclusive, was very changeable.—W. C. HARRIS.

*Phillipsburg*: During the period extending from the 17th to the afternoon of the 23d, no sunshine was recorded. The month closed cold and rainy.—D. W. SMITH.

*Hightstown*: From the 13th to the 24th, inclusive, the wind was continuously northeast, and from the 17th to the 24th, inclusive, there was but one hour of sunshine.—ERNST WENGER.

*Moorestown*: Features of the weather were extreme cloudiness, a heavy, washing rain on the night of the 4th-5th, and a prolonged northeast storm, lasting from the 16th to the 24th, inclusive.—J. C. BEANS.

*Canton*: A violent, local windstorm, having some of the characteristics of a tornado, formed near this place on the afternoon of the 9th and moved northeastward. The wind caused destruction to trees, lifted a buggy several feet into the air and carried it a short distance, demolished outbuildings, etc. Hailstones of small size fell. Altho of brief duration, the violence of the phenomenon was terrifying.—J. H. MASKELL.

### CLIMATOLOGY OF PLAINFIELD, N. J.--

#### Concluded.

The following table gives the monthly precipitation averages, the greatest and the least amounts of precipitation on record for each month, and the monthly snowfall averages, all data being expressed in inches:

Month.	Average precipitation.	Greatest monthly amount.	Year.	Least monthly amount.	Year.	Average snowfall.
January	3.75	8.37	1889	1.68	1896	9.0
February	4.04	7.65	1902	0.79	1901	11.4
March	4.36	7.23	1899	2.54	1894	6.4
April	3.93	8.22	1901	1.28	1896	0.5
May	3.95	8.54	1898	0.84	1903	0
June	4.05	10.14	1903	1.16	1901	0
July	6.09	15.52	1889	1.41	1894	0
August	5.10	10.53	1888	1.93	1894	0
September	4.89	13.13	1889	0.79	1895	0
October	4.18	8.37	1903	1.09	1892	0
November	3.54	11.13	1889	1.22	1903	1.9
December	3.83	7.60	1902	1.44	1896	5.4

The average annual precipitation is 51.71 inches.

The average precipitation for winter is 11.62 inches; for spring, 12.24 inches; for summer, 15.24 inches, and for autumn, 12.61 inches.

The average annual snowfall is 34.6 inches.

The average annual number of days with a measurable amount of precipitation is 129.

The average amounts of precipitation for January, April,

May, November and December, ranging from 3.54 inches to 3.95 inches, are remarkably uniform. November, with an average precipitation of 3.54 inches, is known as the driest month of the year, altho January, April, May and December, have averages that are only slightly greater than the November average. July, with an average rainfall of 6.09 inches, is unquestionably the wettest month of the year.

The actual annual precipitation has ranged from a minimum amount of 39.45 inches (1895) to a maximum amount of 82.31 inches (1889).

The three consecutive driest years were 1894, 1895 and 1896, with total amounts of precipitation of 50.59, 39.45 and 47.91 inches, respectively. The three consecutive wettest years were 1902, 1903 and 1904, with amounts of 57.14, 57.80 and 54.78 inches, respectively.

The greatest monthly amounts of precipitation (10 inches or more) have occurred in June, July, August, September and November, and the least monthly amounts (less than 1 inch) in February, May and September.

The greatest amount of rain that has occurred in a single storm is 6.70 inches (September 14-15, 1904; duration 17 hours, 40 minutes). On July 30-31, 1889, 6.61 inches fell in 24 consecutive hours, and 6.32 inches on October 8-9, 1903.

As a rule the heaviest snowstorms occur in January and February, altho in November, 1898, the snowfall was 17 inches, in December, 1904, 24 inches, and in March, 1896, 23 inches. The maximum monthly amount is 33 inches, for February, 1899. In a period of 14 years no appreciable amount of snow has fallen in October, and for April the greatest amount on record is 3.5 inches. Heavy falls in November have been infrequent, but for December and March amounts ranging from 12 to 24 inches are not exceptional. In March of the current year the snowfall was 15 inches, or about 6 inches more than the total fall for December, 1905, and January and February, 1906. The maximum winter snowfall is 50.4 inches (winter of 1904-5).

#### SUNSHINE, CLOUDINESS AND WIND.

The average annual number of clear days at Plainfield is 106; partly cloudy, 165; cloudy, 94. The prevailing wind direction is southwest.—L. A. J.

### Comparative Data for October.

Year.	Temperature.			Average precipitation
	Mean.	Highest.	Lowest.	
1887	52.3	89	21	2.61
1888	49.2	76	25	4.73
1889	50.8	82	23	3.80
1890	53.9	81	24	0.33
1891	52.8	93	18	3.44
1892	53.6	87	21	0.52
1893	55.2	85	17	4.22
1894	55.3	87	23	5.67
1895	49.9	83	18	3.60
1896	51.5	82	21	2.24
1897	55.8	95	22	2.43
1898	56.5	88	24	5.76
1899	56.6	86	18	2.72
1900	59.9	92	19	3.70
1901	54.4	82	21	1.93
1902	56.0	80	20	6.39
1903	55.9	86	24	8.92
1904	51.9	89	15	3.78
1905	55.5	90	17	2.71
1906	55.0	80	11	4.46



## CLIMATOLOGICAL DATA FOR OCTOBER, 1906.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.		Number cloudy days.	Prevailing direction of wind.
THE HIGHLANDS & KITTATINNY VAL.																				
Layton	Sussex	550	7	51.8	+1.4	76	6	11	13	45	3.32	-0.70	0.87	0	9	17	2	12	ne.	Warren C. Hursh.
Sussex	do	412	12	53.2	+0.5	74	5	21	13	39	2.73	-0.95	1.07	T.	5	11	10	10	w.	Prof. W. H. Seeley.
Newton	do	678	26	52.5	+0.4	75	5	22	13	41	3.44	-0.38	0.97	0	10	14	9	8	w.	Brice Bowman.
Charlotteburg	Passaic	719	11	52.2	+1.2	73	5	19	13	40	1.58	-0.37	.....	T.	10	12	12	7	ne.	G. S. Briggs.
Pompton Plains	Morris	.....	3	.....	.....	.....	.....	.....	.....	.....	3.39	.....	1.36	0	11	.....	.....	.....	nw.	River & Flood Service.
Dover	do	575	22	50.2	-0.9	72	23	23	13	38	4.01	+0.70	1.30	T.	11	1	11	1	.....	William C. Harris.
Belvidere	Warren	289	16	54.3	+1.0	77	5	27	*13	40	6.59	+2.93	1.85	0	11	11	4	16	.....	Samuel J. Hixson.
Phillipsburg	do	190	4	53.8	+1.1	76	5	27	13	35	5.47	+2.11	1.90	0	13	7	11	13	ne.	D. W. Smith.
District averages	.....	.....	.....	52.6	+0.6	.....	.....	.....	.....	.....	4.26	+0.67	.....	.....	11	10	9	12	ne.	.....
THE RED SAND STONE PLAIN.																				
Mahwah	Bergen	.....	3	.....	.....	.....	.....	.....	.....	.....	2.66	.....	1.20	0	11	.....	.....	.....	ne.	River & Flood Service.
River Vale	do	70	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. C. Holman.
Paterson	Passaic	110	30	55.8	+1.3	77	9	31	13	39	4.61	+0.48	2.05	T.	12	4	17	10	ne.	H. A. Probert.
Englewood	Bergen	135	16	53.8	+0.1	73	19	30	*12	31	4.72	+0.87	1.37	T.	9	12	3	15	ne.	William C. Tucker.
Little Falls	Passaic	.....	3	.....	.....	.....	.....	.....	.....	.....	3.84	.....	1.51	0	15	.....	.....	.....	w.	River & Flood Service.
South Orange	Essex	200	35	53.6	-0.8	72	9	31	13	30	4.52	+0.81	1.52	0	10	7	10	11	ne.	W. J. Chandler, M. D.
Chatham	Morris	.....	3	.....	.....	.....	.....	.....	.....	.....	3.32	.....	0.82	0	11	.....	.....	.....	w.	River & Flood Service.
Newark	Essex	140	14	55.0	+0.9	76	5	30	13	33	4.23	+0.43	1.50	0	11	4	12	15	ne.	Wm. Wiener.
New York, N. Y.	New York	314	36	56.1	+0.6	74	9	37	12	26	4.30	+0.60	1.21	T.	11	5	10	16	ne.	U. S. Weather Bureau.
Jersey City	Hudson	15	1	56.0	.....	77	9	35	*12	26	4.16	.....	1.40	T.	12	5	7	19	ne.	Samuel K. Pearson, Jr.
Bayonne	do	50	16	55.0	-1.0	78	9	32	13	30	4.62	+0.80	1.22	0	14	6	12	13	ne.	John H. Kadie.
Bergen Point	do	37	9	55.4	-0.7	77	9	33	12	29	4.76	+0.68	1.17	T.	10	3	13	13	ne.	Dr. W. H. Mitchell.
Elizabeth	Union	33	27	55.0	+0.2	75	9	32	13	28	4.54	+0.50	.....	0	8	16	7	8	.....	W. M. Oliver.
Plainfield	do	100	16	54.0	0.0	75	9	28	13	33	4.72	+0.54	1.37	T.	16	4	11	13	ne.	John Neagle.
Somerville	Somerset	76	27	54.8	+0.9	76	9	28	13	36	4.94	+1.59	1.30	0	13	6	1	24	ne.	Peter Hardcastle.
Flemington	Hunterdon	187	9	54.6	-1.2	78	5	29	13	36	5.46	+1.53	2.98	0	12	10	11	10	e.	H. E. Dents.
New Brunswick	Middlesex	61	53	53.7	-1.1	75	9	25	13	36	3.08	-0.54	1.00	T.	10	12	1	18	e.	Wm. T. Woerner.
College Farm	do	100	11	54.0	-1.4	75	9	27	*13	38	3.02	-1.09	1.00	0	10	12	5	14	s.	Miss J. A. Voorhees.
Lambertville	Hunterdon	95	20	55.2	+1.2	74	5	27	13	41	5.00	+1.24	2.64	0	12	13	7	11	nw.	William R. Bowne.
District averages	.....	.....	.....	54.8	0.0	.....	.....	.....	.....	.....	4.25	+0.52	.....	.....	11	8	9	14	ne.	.....
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	15	53.5	-1.4	75	9	28	13	31	3.54	-0.54	0.90	T.	11	10	5	15	ne.	Ernst Wenger.
Trenton	do	60	37	55.8	-1.7	73	19	30	13	32	3.56	-0.29	1.26	T.	8	5	12	11	ne.	E. R. Cook.
Imlaystown	Monmouth	106	20	55.2	+0.1	77	9	29	13	33	4.65	+0.45	1.08	0	11	10	9	12	ne.	F. C. Price, M. D.
Lakewood	Ocean	54	6	54.9	-0.3	75	9	30	30	29	4.81	+0.72	1.59	0	11	11	8	12	e.	C. A. Roe.
Beverly	Burlington	30	22	54.3	-0.5	76	9	30	13	32	3.95	+0.11	1.64	T.	12	6	12	13	ne.	C. F. Richardson.
Rancocas	do	68	21	.....	.....	75	9	34	*12	.....	4.54	+0.45	1.85	T.	11	7	5	17	ne.	Spencer Haines.
Brown's Mills	do	71	1	56.0	.....	75	9	26	13	35	4.90	.....	1.47	0	10	8	12	11	ne.	F. J. Miller.
Moorestown	do	71	42	55.1	+0.8	75	5	29	13	32	4.20	+0.49	1.69	T.	14	7	6	18	w.	John C. Beans.
Philadelphia, Pa.	Philadelphia	117	36	56.2	-0.4	75	5	36	31	24	4.97	+1.87	2.56	T.	14	6	8	17	ne.	U. S. Weather Bureau.
Toms River	Ocean	33	15	54.5	-0.6	77	9	25	13	31	7.14	+2.97	2.60	T.	9	7	10	14	ne.	F. G. Bunnell.
Indian Mills	Burlington	70	6	55.8	-0.2	75	9	26	13	36	5.63	+1.45	1.72	T.	12	9	11	11	e.	James Armstrong.
Clayton	Gloucester	126	10	56.0	-1.0	77	5	31	*12	32	4.26	+0.86	1.24	0	11	13	4	14	ne.	Wm. T. Farley.
Tuckerton	Ocean	23	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. R. Austin.
Friesburg	Salem	100	14	55.8	-1.2	77	5	28	12	34	4.56	+0.72	1.21	0	12	4	14	13	ne.	H. C. Perry.
Vineland	Cumberland	118	39	55.6	+0.1	75	5	27	12	33	4.71	+1.11	1.10	T.	12	7	12	12	ne.	Alfred Chalmers.
Canton	Salem	24	5	.....	.....	.....	.....	.....	.....	.....	3.43	.....	1.40	0	5	12	5	14	.....	J. H. Maskell.
Bridgeton	Cumberland	30	20	57.2	+0.3	80	5	29	12	37	3.80	-0.33	1.25	0	9	14	5	12	ne.	Henry A. Jorden.
Pleasantville	Atlantic	26	4	.....	.....	.....	.....	.....	.....	.....	6.97	.....	2.24	0	14	12	4	15	.....	L. Van Gilder.
Woodbine	Cape May	43	15	56.4	+0.3	76	5	27	12	30	3.50	-0.29	1.01	0	9	13	3	15	e.	Arthur R. Merrill.
Cape May C. H.	do	19	19	56.7	0.0	76	5	33	*13	27	3.76	+0.29	0.70	0	11	7	7	17	ne.	L. T. Garretson.
District averages	.....	.....	.....	55.6	-0.4	.....	.....	.....	.....	.....	4.56	+0.52	.....	.....	11	9	8	14	n.	.....
THE SEA COAST.																				
Sandy Hook	Monmouth	14	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Arthur E. Jewell.
Oceanic	do	16	20	56.8	+1.4	80	9	34	*12	30	4.90	+0.62	2.00	0	8	6	11	14	e.	Rev. S. W. Knipe.
Asbury Park	do	22	18	56.1	+0.5	70	5	34	12	22	5.01	+0.56	1.24	T.	11	8	7	16	ne.	B. H. Obert.
Atlantic City	Atlantic	16	31	56.8	+0.2	72	5	33	13	22	6.22	+2.76	2.77	0	13	7	5	19	ne.	Section Center.
Cape May City	Cape May	17	13	57.6	-1.3	74	5	37	31	21	2.94	-0.64	0.99	0	13	7	11	13	ne.	U. S. Weather Bureau.
District averages	.....	.....	.....	56.8	+0.2	.....	.....	.....	.....	.....	4.77	+0.82	.....	.....	11	7	8	16	ne.	.....

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

† Received late; not considered in averages.

STATIONS.		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	Month.
Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Mean.
HIGHLANDS & KIT- TANNY VAL.																																	
Layton.....																																	
Saxton.....																																	
Newton.....																																	
Chalontsburg.....																																	
Dover.....																																	
Belvidere.....																																	
Phillipsburg.....																																	
RED SANDSTONE PLAIN.																																	
River Vale.....																																	
Paterson.....																																	
South Orange.....																																	
Newark.....																																	
New York, N. Y.....																																	
Jersey City.....																																	
Bayonne.....																																	
Bergen Point.....																																	
Elizabeth.....																																	
Lumbert.....																																	
Stamerville.....																																	
Flemington.....																																	
New Brunswick.....																																	
College Park.....																																	
Lancasterville.....																																	
SOUTHERN INTER.																																	
Wrightstown.....																																	
Trenton.....																																	
Imlaystown.....																																	
La Wood.....																																	
Peween.....																																	
Brown's Mills.....																																	
Moorestown.....																																	
Philadelphia, Pa.....																																	
Toms River.....																																	
Indian Mills.....																																	
Clayton.....																																	
Tuckerton.....																																	
Vineyard.....																																	
Vineyard.....																																	
Woodbine.....																																	
Cape May C. H.....																																	
SEA COAST.																																	
Sandy Hook.....																																	
Oceanic.....																																	
Asbury Park.....																																	
Atlantic City.....																																	
Cape May City.....																																	



# Total Monthly Precipitation, October, 1906.



**TOTAL PRECIPITATION FOR OCTOBER, 1906.**

Stations.	Day of Month.																															Total.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
THE HIGHLANDS & KITTA-TINNY VALLEY.																																	
Layton .....					.75	.14	.03			.26									.03	.87	.32				.50						.42	3.32	
Sussex .....					.60	.18			.20	T.									.04	1.07	.02			T.				.30			.40	2.71	
Newton .....		.13			.47	.20	.10												.05	.97	.11				.47			.07			.56	3.44	
Charlotteburg .....			.20		.78		.19		.22									*	1.85		.64				.53						.48	4.58	
Pompton Plains    .....		.08			.22	.09	.08	.13	*	.29								*	.04	1.36	.26	.18	.01	*	.55	.10						.76	3.35
Dover .....		.09			*	.94	.07		.25	.01	T.								.70	.30	1.00		.03		.37		.05		.04			.41	6.56
Belvidere .....					1.85	.15	.05			.28									.19	1.78	.23	.05	.05		.55						1.41	6.56	
Phillipsburg .....	T.	.20		.03	1.90	.14	.04			.22									.21	.77	.51		.04	T.	.61		T.	.07			.73	5.47	
THE RED SAND STONE PLAIN.																																	
Mahwah    .....		.02			.04	*	.12	.03	*	.22									*	1.20	.10	.13		*	.80							2.66	
River Vale .....																																	
Paterson .....		.11			T.	.33	.13	.03		.57	.18	T.							T.	.06	2.05	.44		T.	.02	.53					.16	4.61	
Englewood .....				*	T.	.36	.07		1.37		T.								T.	.07	1.26	.83			.03	.47					.26	4.72	
Little Falls    .....	.04	.12			.28	.03	.13	.02	*	.54			.02						*	.04	1.51	.12	.45		.51				.03			3.82	
South Orange .....	T.	.12			T.	.60	.10	.02	*	.81		T.							T.	.10	1.52	.60	T.	T.	T.	.39					.26	4.54	
Chatham    .....	.12	.10			.70	.12	*	.08	*	.30	.08								T.	.20	.05	.45	.10	*	.52							3.32	
Newark .....		.13			.53	.03	T.		.45										T.	.06	1.50	.70	.12		.03	.22					.46	4.25	
New York, N. Y. ....	T.	.02			T.	.35	.03		1.05	.10	T.								T.	.03	1.20	.76		T.	.02	.44					.30	4.30	
Jersey City .....		.05			T.	.44	.03	T.		.71	.25	T.							T.	.02	1.33	.67		.01	.03	.31		T.	T.		.31	4.16	
Bayonne .....		.05			T.	.65	.05	.05		.66	.27	T.							T.	.03	1.22	.84	.13	.01	.02	.40					.24	4.62	
Bergen Point .....		.07			T.	.73	.04	.02		.61	.29	T.							T.	1.15	1.17			T.	.48						.20	4.74	
Elizabeth .....					.80	.08	T.		.30										T.			2.33	.50		.25						.28	4.54	
Plainfield .....		.07		.02	1.08	.12	.03		.63	.15	T.							.06	.08	.41	.98	.39	.07	.03	.18						.42	4.72	
Somerville .....		.12			1.30	.05	.04		T.	.23	T.							.03	.17	.57	1.12	.10	.03	T.	.90						.58	4.92	
Flemington .....	T.	.11	T.		T.	2.98	.08	.04		T.	.22	T.						.02	.20	.34	.73	.03		T.	.19						.54	5.43	
New Brunswick .....		.04			1.00	.07	.06		.60		T.							.05		.11	.90			T.	.15						.10	3.08	
College Farm .....		.04			1.00	T.			.26	.12									T.	.04	.31	.77	T.	.12		.11					.25	3.02	
Lambertville .....		.11			T.	2.64	.05	T.		.20									T.	.13	.34	.65	.11	.08	.10	.08						.50	5.06
THE SOUTHERN INTERIOR.																																	
Hightstown .....		.05			.80	T.			.30	.06	T.								.24	.63	.90		.15	.04		.17					.20	3.54	
Trenton .....	T.	T.	T.		T.	1.26	.18		.27		T.								T.	.11	.08	.79				.40		T.			.47	3.56	
Imlaystown .....		.08			T.	1.08	.08	.03	1.00										T.	*	*	1.83				.22						.33	4.65
Lakewood .....		.04			1.59	.11			.33	.45										.60	1.25	.05	.01		.34						.04	4.81	
Beverly .....	T.	.04			.01	1.64	.05		.14	.16									T.	.25	.08	.63	T.	.12		.20					.63	3.95	
Rancocas .....	.05			T.	.02	1.85	.01		.50	.12									T.	.37	.49	.39	T.			.12		T.			.62	4.54	
Brown's Mills .....					1.47	.15			.98	.13									T.	.12	.15	1.15	.11		.54						.10	4.90	
Moorestown .....	.03	.06			.03	1.67	.05	T.	.28	.17								T.	T.	.19	.64	.49	.07	.01	.10			T.			.41	4.20	
Philadelphia, Pa. ....	T.	.02	T.		.86	1.71	.03		.03	.11								.01	.53	.26	.59	.04	T.	T.	.20		.01				.62	4.94	
Toms River .....					T.		1.00		*	.70	T.	*							*	*	*	*		2.45		*		*	*			.39	7.14
Indian Mills .....					.09	1.22	.14	.04		.54	.20								.30	1.72	.42	.22			.18						.56	5.63	
Clayton .....	T.				.06	.46	.18		.69										T.	.48	.47	.38	.14	.02	.14						1.24	4.26	
Tuckerton .....																																	
Friesburg .....					.18	.25	.23		.45	.15									*	1.15	*	.66	.03		.22			T.			1.24	4.56	
Vineland .....	T.				*	.43	.28		.51		T.							.01	T.	.32	.60	1.10	.22	.01	.15						1.08	4.71	
Canton .....	T.				.55		.20		.38									T.	T.				.90		.03							1.40	3.43
Bridgeton .....					.13		.43		.77		.43								.35	.20	.30	.25			.12						1.25	3.80	
Pleasantville .....		.10			.19	1.80			.25	.14						.02	.19		.14	.42	2.24	.32	.02		.09						1.05	6.97	
Woodbine .....						.15			.02	.21										.45	1.01	.93			.31						.37	3.50	
Cape May C. H. ....	.05				T.	.50	.65		.28	.12							.04	.04		T.	.10		.44	T.		.21					.68	3.76	
THE SEA COAST.																																	
Sandy Hook .....																																.45	4.90
Oceanic .....					.08	1.20	.06		.42			.05							*	2.00	.64										.19	5.01	
Asbury Park .....		.03			1.24	.14	.15		.37	.18	T.								1.02	1.14	.16	T.	T.	.53							1.60	6.22	
Atlantic City .....			.13	.12	.14	.75			.26	.10									T.	.08					.08								
Cape May City .....	T.		.10	.11	.01	.13			.30	.13										.05	.06	2.65	.20	T.		.12					T.	2.94	
																				.05	.03	.99	.20	T.									
															</																		

T. Indicates amount too small to measure.



UNNJ  
U. S. DEPARTMENT OF AGRICULTURE

REPORT FOR NOVEMBER, 1906.

NEW JERSEY SECTION  
OF THE  
CLIMATOLOGICAL SERVICE  
OF THE  
WEATHER BUREAU

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

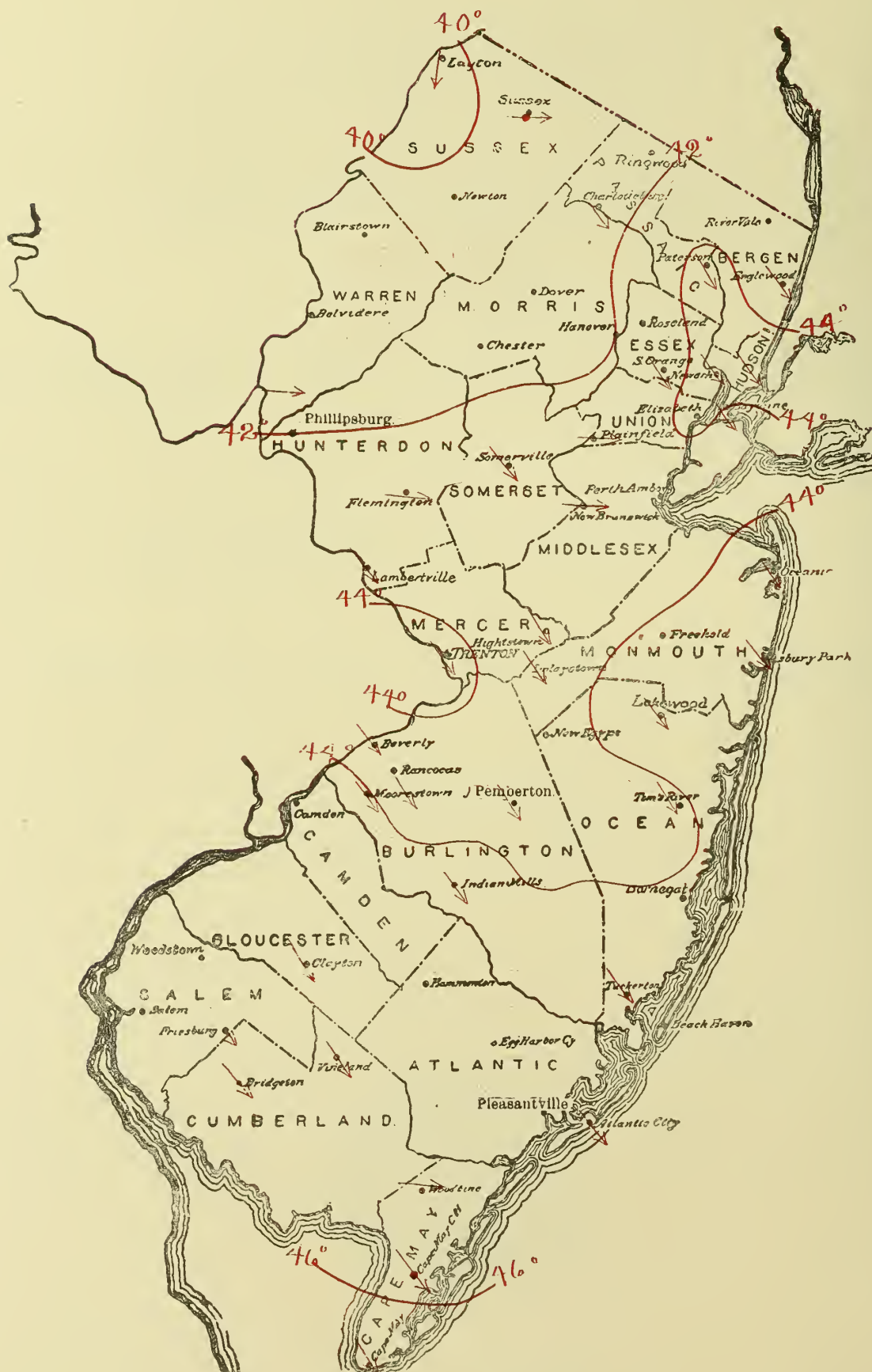
UNDER DIRECTION OF  
WILLIS L. MOORE  
CHIEF U. S. WEATHER BUREAU

BY  
LEVI A. JUDKINS  
SECTION DIRECTOR



BOSTON, MASS.  
WEATHER BUREAU OFFICE  
DECEMBER 18, 1906

# Monthly Mean Isotherms and Prevailing Winds, November, 1906.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

XIX. ATLANTIC CITY, N. J., NOVEMBER, 1906. No. 11.

## GENERAL SUMMARY.

The month, on the whole, was rather more pleasant than the average November, and decidedly more so than the preceding month—October. Prominent features were light precipitation, the large number of clear days, abundant sunshine and the general absence of severe storms.

The temperature averaged practically the normal, the departure from average conditions being merely a small fraction of a degree, namely,  $+0.3^{\circ}$ . From the 1st to the 17th, however, the daily mean temperatures were generally below the normal, and at the close of this period an accumulated deficiency in mean temperature, amounting to a daily average of several degrees, was recorded. At about the end of the second decade the weather became decidedly warmer and the mild spell, continuing with slight interruption until the last of the month, greatly reduced the temperature deficiency, and, in fact, produced a slight excess in parts of all districts. The month closed clear and cold, the temperature at a large number of stations reaching its lowest point on the 30th, altho the absolute minimum,  $8^{\circ}$ , was registered on the 17th. The highest readings of the maximum thermometer, ranging from 59 to  $70^{\circ}$ , occurred mostly on the 3d and 18th. The range in mean temperature for the State was from about  $39^{\circ}$  in the extreme north to  $47^{\circ}$  in the extreme south.

Except over the western portion of Sussex County, the extreme southern portion of Ocean, and the extreme eastern portion of Atlantic, where the total precipitation ranged from 2 to 2.50 inches, the monthly amounts were less than 2 inches and were much below the normal. The average amount for the entire district, 1.61 inches, is with two exceptions the smallest November average on record. In portions of Essex, Hudson, Mercer, Middlesex, Monmouth, Morris, Ocean, and Union counties the deficiency in precipitation exceeded 2 inches, the greatest local departure, —2.75 inches, occurring at Hightstown. The bulk of the precipitation for the month occurred during the period extending from the 11th to the 22d, inclusive, and no excessive 24-hour falls were recorded. In many sections absolutely clear weather prevailed during the first decade, and during the latter part of the third decade precipitation was light and scattered. An unusually heavy snowfall for the season

(amounts ranging from 7 to 10 inches) occurred on the 15th over the northwestern counties. The snow area extended southward over the central counties, where the depths averaged about 4 inches, and there were light falls in portions of the southern Delaware River counties. The snow melted rapidly and the ground was bare within two days.

The weather of the month was favorable for the usual outdoor work of the season, there being many days with bright sunshine and an average of but 6 days with precipitation.

## TEMPERATURE.

The monthly mean,  $43.6^{\circ}$ , was practically normal, and  $1.5^{\circ}$  above the mean for the corresponding month of 1905.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $40.5^{\circ}$ ; Red Sand Stone Plain,  $43.7^{\circ}$ ; Southern Interior,  $44.6^{\circ}$ ; Sea Coast,  $45.5^{\circ}$ .

The highest monthly mean was  $46.6^{\circ}$ , at Cape May City, and the lowest,  $38.6^{\circ}$ , at Layton.

The absolute maximum was  $70^{\circ}$ , at Toms River, on the 19th, and the absolute minimum,  $8^{\circ}$ , at Layton, on the 17th.

The absolute range for the State was  $62^{\circ}$ .

The greatest local monthly range was  $52^{\circ}$ , at Layton, and the least,  $30^{\circ}$ , at Cape May City.

The greatest daily range was  $36^{\circ}$ , at Indian Mills, on the 5th.

## PRECIPITATION.

The average, 1.61 inches, was 1.75 inches below the normal, and 0.23 of an inch below the average for the corresponding month of 1905.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 1.75 inches; Red Sand Stone Plain, 1.44 inches; Southern Interior, 1.66 inches; Sea Coast, 1.58 inches.

The greatest monthly amount was 2.52 inches, at Atlantic City, and the least, 1.06 inches, at South Orange.

The greatest amount in any 24 consecutive hours was 1.51 inches, at Atlantic City, on the 15th.

The average number of days with a measurable amount was 6.

The greatest snowfall for the month was 10 inches, at Layton. The average falls for the various districts were as follows: The Highlands and Kittatinny Valley, 7.3 inches; Red Sand Stone Plain, 2.5 inches; Southern Interior, 0.3 of an inch; Sea Coast, trace.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 16; partly cloudy, 7; cloudy, 7. At Atlantic City the duration of sunshine was 65 per cent of the possible amount.

## WIND.

The prevailing direction was northwest. At Atlantic City the total movement was 6,010 miles, average hourly velocity, 8.3 miles; at Jersey City, total movement, 9,270 miles, average hourly velocity, 12.9 miles.

## MISCELLANEOUS PHENOMENA.

*Auroras*.—Newark, 4th; Patterson, 3d.

*Meteors*.—Newark, 19th; Plainfield, 4th.

*Thunderstorms*.—Cape May, Cape May C. H., Oceanic, 11th.

*Rainbow*.—Indian Mills, Moorestown, 18th; Phillipsburg, 12th.

*Sleet*.—Bayonne, Beverly, Canton, 15th; Dover, 12th; Indian Mills, 16th; Jersey City, 15th, 28th; Moorestown, 15th; Newark, 16th; Paterson, Phillipsburg, 15th; Plainfield, 15th, 16th; Rancocas, Trenton, 15th; Vineland, 16th.

*Halos, solar*.—Atlantic City, 8th, 23d, 26th; Flemington, 26th; Hightstown, 17th; Indian Mills, 26th; Jersey City, 17th; Layton, 9th; Moorestown, 8th, 10th, 26th; Plainfield, 26th; Rancocas, 17th, 26th; Somerville, 14th, 26th; Vineland, 26th.

*Halos, lunar*.—Atlantic City, 3d, 26th; Asbury Park, 26th; Beverly, 3d; Indian Mills, 8th; Jersey City, 26th; Moorestown, 3d, 5th, 8th, 26th; Newark, 1st, 2d, 25th, 26th, 28th; Phillipsburg, 5th; Plainfield, 3d; Rancocas, 8th, 26th; Somerville, 26th; Toms River, 3d; Vineland, 23d, 26th.

*Fog*.—Atlantic City, 19th–21st; Bayonne, 22d; Beverly, 6th, 19th, 22d; Bergen Point, 21st, 22d; Cape May, 9th, 19th–21st; Hightstown, 22d; Jersey City, 22d; Lambertville, 21st, 22d; Layton, 18th; Moorestown, 20th, 21st; Oceanic, 19th, 22d; Paterson, 9th, 22d; Phillipsburg, 9th, 18th–22d; Rancocas, 20th–22d; Somerville, 19th, 20th; Toms River, 20th; Trenton, 19th, 21st, 22d; Tuckerton, 21st; Vineland, 20th, 21st.

## REMARKS BY OBSERVERS.

NEW BRUNSWICK.—The month was remarkable for light precipitation and large amount of sunshine.—W. T. Woerner.

BERGEN POINT.—The rainfall was abnormally light. The first killing frost of the season occurred on the 14th.—Dr. W. H. Mitchell.

PHILLIPSBURG.—Noteworthy features of the month were the deficiency in the rainfall and the snowfall of 6 inches (on the 15th).—D. W. Smith.

IMLAYSTOWN.—The month was very favorable for the usual outdoor work of the season. Stock was in the pasture as late as the 30th.—Dr. F. C. Price.

MOORESTOWN.—The greater part of the month was mild. Dandelions and some varieties of roses bloomed during much of the month.—John C. Beans.

HIGHTSTOWN.—The weather of the month was generally fine, the temperature being moderate, and the precipitation much below the normal.—Ernst Wenger.

JERSEY CITY.—The precipitation was only 37 per cent of the normal amount for the month. The duration of sunshine was about 58 per cent of the possible amount. No unseasonably high or low temperatures occurred.—S. K. Pearson, Jr.

## COMPARATIVE DATA FOR AUTUMN.

The temperature for the months of September, October and November, for a period of 19 years, 1887 to 1905, inclusive, has averaged as follows: 1887, 51.8°; 1888, 52.7°; 1889, 53.8°; 1890, 54.0°; 1891, 54.6°; 1892, 53.2°; 1893, 53.2°; 1894, 54.8°; 1895, 55.1°; 1896, 54.9°; 1897, 55.0°; 1898, 55.8°; 1899, 55.0°; 1900, 59.1°; 1901, 53.2°; 1902, 56.6°; 1903, 53.6°; 1904, 52.3°; 1905, 54.3°; average for autumn for the 19-year period, 54.4°.

From the foregoing data, it will be seen that the temperature for autumn has ranged from 51.8° (1887) to 59.1° (1900), the former having averaged about 2.5° below, and the latter about 4.5° above, the normal.

The coolest autumn (1887) had an average temperature for September of 62°, for October, 52°, and for November, 42°.

The exceptionally mild autumn of 1900 (average temperature for September, 70°, for October, 60°, and for November, 48°) followed the warmest summer that has occurred during a period extending back to 1887.

The total precipitation (expressed in inches) for autumn for the years 1887 to 1905, inclusive, is as follows: 1887, 8.21; 1888, 15.79; 1889, 20.64; 1890, 11.90; 1891, 8.29; 1892, 9.62; 1893, 10.90; 1894, 16.47; 1895, 7.84; 1896, 9.63; 1897, 8.67; 1898, 14.52; 1899, 10.89; 1900, 9.99; 1901, 7.69; 1902, 14.24; 1903, 13.52; 1904, 10.75; 1905, 9.78; average for autumn for the 19-year period, 11.54.

The total precipitation for autumn has ranged from 7.69 inches (1901) to 20.64 inches (1889), and has been below the normal more frequently than above it.

The greatest amount of precipitation for any individual month of this season is 8.92 inches (October, 1903), and the least is 0.52 of an inch (October, 1892).

The average temperature for the current autumn, 55.8°, is 1.4° higher than the average for this season for a period of 19 years, and is the highest that has occurred since 1902. The excess in temperature was produced by the high mean for September, the temperature for October and November having averaged about the normal. The total precipitation, 8.26 inches, is 3.28 inches below the normal, this being the third consecutive autumn with rainfall below the normal.—L. A. J.

## Comparative Data for November.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1887.....	41.5	72	12	1.94
1888.....	45.8	77	8	3.97
1889.....	45.7	74	13	8.48
1890.....	43.8	74	11	0.82
1891.....	42.2	79	6	2.39
1892.....	41.9	76	13	7.29
1893.....	41.8	76	11	3.48
1894.....	40.3	80	12	3.34
1895.....	45.7	83	12	3.17
1896.....	48.2	83	12	3.05
1897.....	43.8	74	10	4.59
1898.....	42.4	71	11	6.76
1899.....	44.0	71	17	2.23
1900.....	47.5	79	15	3.43
1901.....	38.5	69	10	2.38
1902.....	49.3	80	20	2.20
1903.....	39.9	79	3	1.26
1904.....	40.2	69	6	2.18
1905.....	42.1	70	6	1.84
1906.....	43.6	70	8	1.61



CLIMATOLOGICAL DATA FOR NOVEMBER, 1906.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.		Number cloudy days.	Prevailing direction of wind.
THE HIGHLANDS & KITTATINNY VAL.																				
Layton.....	Sussex.....	550	7	38.6	.....	60	3	8	17	35	2.39	+0.63	1.00	10.0	5	19	6	5	n.	Warren C. Hursh.
Sussex..... b.	do.....	442	12	40.4	-1.7	60	3	20	30	32	1.37	-1.42	0.60	6.0	5	20	5	5	w.	Prof. W. H. Seeley.
Newton.....	do.....	678	26	40.2	+3.2	59	* 3	17	* 17	34	2.10	-0.87	0.64	8.5	10	17	6	7	n.w.	Brice Bowman.
Charlotteburg.....	Passaic.....	719	14	41.4	+1.4	60	* 3	19	9	33	1.53	-1.79	0.56	7.0	7	17	9	4	n.w.	G. S. Briggs.
Pompton Plains.....	Morris.....	.....	3	.....	.....	.....	.....	.....	.....	.....	1.79	.....	0.71	6.0	10	.....	.....	.....	n.w.	River & Flood Service.
Dover.....	do.....	575	22	39.8	-0.8	59	* 3	23	* 5	28	1.51	-2.39	0.63	6.0	7	11	7	12	.....	William C. Harris.
Belvidere.....	Warren.....	289	16	41.6	+0.9	65	3	17	17	32	1.98	-1.29	1.88	8.8	6	17	2	11	.....	Samuel J. Hixson.
Phillipsburg.....	do.....	196	1	41.8	+0.2	63	3	23	* 17	32	1.14	-1.89	0.97	6.0	7	17	4	9	w.	D. W. Smith.
District averages.....	.....	.....	.....	4.05	+0.4	.....	.....	.....	.....	.....	1.75	-1.58	.....	7.3	7	18	5	7	n.w.	.....
THE RED SAND STONE PLAIN.																				
Mahwah.....	Bergen.....	.....	3	.....	.....	.....	.....	.....	.....	.....	1.69	.....	0.37	3.8	9	.....	.....	.....	n.w.	River & Flood Service.
River Vale.....	do.....	70	15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	A. C. Holdrum.
Paterson.....	Passaic.....	110	30	44.8	+1.6	67	3	27	30	33	1.31	-1.86	0.84	4.0	6	10	12	8	n.w.	H. A. Probert.
Englewood.....	Bergen.....	135	16	43.2	-0.1	64	3	24	30	33	1.71	-1.53	0.69	2.0	4	12	5	13	n.w.	William C. Tucker.
Little Falls.....	Passaic.....	.....	3	.....	.....	.....	.....	.....	.....	.....	1.43	.....	0.73	2.5	11	.....	.....	.....	n.	River & Flood Service.
South Orange.....	Essex.....	200	35	42.6	+1.1	64	18	25	30	26	1.66	-2.43	0.46	3.0	5	14	8	8	n.w.	W. J. Chandler, M. D.
Chatham.....	Morris.....	.....	3	.....	.....	.....	.....	.....	.....	.....	1.75	.....	0.60	3.5	8	.....	.....	.....	n.w.	River & Flood Service.
Newark.....	Essex.....	140	14	44.2	+0.8	66	18	25	30	29	1.37	-2.23	0.67	4.2	7	10	11	9	n.w.	Wm. Wiener.
New York, N. Y.....	New York.....	314	30	44.9	+1.1	64	18	27	29	25	1.28	-2.18	0.57	T.	4	14	8	8	n.w.	U. S. Weather Bureau.
Jersey City.....	Hudson.....	15	1	44.6	.....	62	* 3	27	30	26	1.40	.....	0.64	0.5	9	13	5	12	n.w.	Samuel K. Pearson, Jr.
Bayonne.....	do.....	59	16	43.8	+0.1	68	18	26	30	20	1.27	-1.12	0.51	1.0	9	15	6	9	n.w.	John H. Eadie.
Bergen Point.....	do.....	37	9	44.4	+0.9	68	18	26	30	28	1.34	-1.80	0.59	1.0	7	7	16	7	n.w.	Dr. W. H. Mitchell.
Elizabeth.....	Union.....	33	27	44.7	+1.3	66	18	26	30	27	1.28	-2.27	0.60	0.4	5	22	4	4	.....	W. M. Oliver.
Plainfield.....	do.....	100	16	42.5	+0.6	67	17	23	30	32	1.26	-2.28	0.65	3.8	6	15	7	8	w.	John Neagle.
Somerville.....	Somerset.....	76	27	42.9	+0.6	67	18	22	17	32	1.65	-1.48	1.00	3.5	6	17	0	13	n.w.	Peter Hardcastle.
Flemington.....	Hunterdon.....	187	9	43.0	+0.7	62	* 3	24	* 17	32	1.30	-1.42	0.51	4.0	7	15	8	7	w.	H. E. Deats.
New Brunswick.....	Middlesex.....	61	53	43.0	-0.7	65	18	23	* 15	33	1.62	-2.10	0.64	2.0	7	22	4	4	w.	Wm. T. Woerner.
College Farm.....	do.....	100	11	43.0	-0.6	68	18	23	30	34	1.50	-1.80	0.81	2.5	5	18	1	11	n.	Miss J. A. Voorhees.
Lambertville.....	Hunterdon.....	95	20	43.4	+0.6	65	18	24	17	31	1.75	-1.59	0.90	3.0	5	19	5	6	n.w.	William R. Bowne.
District averages.....	.....	.....	.....	43.7	+0.5	.....	.....	.....	.....	.....	1.44	-1.99	.....	2.5	7	15	7	8	n.w.	.....
THE SOUTHERN INTERIOR.																				
Hightstown.....	Mercer.....	85	15	43.0	-0.6	68	18	23	30	30	1.25	-2.75	0.46	T.	5	14	7	9	n.w.	Ernst Wenger.
Trenton.....	do.....	60	37	45.8	-0.6	67	18	25	30	28	1.57	-2.32	0.60	T.	3	9	15	6	n.w.	E. R. Cook.
Imlaystown.....	Monmouth.....	106	20	43.8	-0.7	68	18	23	30	31	1.30	-2.23	0.53	T.	3	17	7	6	n.w.	F. C. Price, M. D.
Lakewood.....	Ocean.....	54	6	44.8	+1.9	67	18	23	30	31	1.30	-0.50	0.74	0	6	23	4	3	n.w.	C. A. Roe.
Beverly.....	Burlington.....	30	22	43.8	-0.2	67	18	23	30	29	1.56	-1.97	0.52	0.4	6	10	14	6	n.w.	C. F. Richardson.
Rancocas.....	do.....	68	21	.....	.....	69	18	24	30	.....	1.64	-1.97	0.50	0.2	5	15	2	13	n.w.	Spencer Haines.
Brown's Mills..... c.	do.....	71	1	43.6	.....	67	18	18	30	33	1.56	.....	0.63	T.	6	.....	.....	.....	n.w.	F. J. Miller.
Moorestown.....	do.....	71	42	44.2	+1.4	68	18	22	30	30	1.70	-1.77	0.53	2.2	7	16	5	9	n.w.	John C. Beaus.
Philadelphia, Pa.....	Philadelphia.....	117	36	47.2	+2.4	67	18	32	30	24	1.72	-1.37	0.72	0.1	5	14	6	10	n.w.	U. S. Weather Bureau.
Toms River..... b.	Ocean.....	33	15	43.8	0.0	70	19	20	30	32	1.61	-2.03	0.96	T.	3	15	4	11	n.w.	F. G. Bunnell.
Indian Mills.....	Burlington.....	76	6	44.6	+1.4	69	18	19	30	35	1.99	-0.47	0.70	0	8	17	6	7	n.w.	James Armstrong.
Clayton.....	Gloucester.....	126	10	44.6	+0.7	68	18	23	30	32	1.65	-1.49	0.72	T.	5	19	6	5	n.w.	Wm. T. Farley.
Tuckerton.....	Ocean.....	23	9	44.2	+0.2	67	19	21	30	31	2.09	-0.46	1.35	T.	5	17	8	5	n.w.	F. R. Austin.
Friesburg..... a.	Salem.....	100	14	44.7	+0.5	66	* 18	22	30	29	1.90	-1.02	0.61	2.5	8	14	10	6	n.w.	H. C. Perry.
Vineland.....	Cumberland.....	118	39	44.3	+0.4	67	18	20	30	34	1.65	-1.81	0.75	T.	6	17	7	6	n.w.	Alfred Chalmers.
Canton.....	Salem.....	24	5	.....	.....	.....	.....	.....	.....	.....	1.56	.....	0.64	0.5	3	21	2	7	.....	J. H. Maskell.
Bridgeton.....	Cumberland.....	30	20	45.6	-0.3	66	* 18	22	30	32	1.89	-1.19	0.78	T.	3	21	1	8	w.	Henry A. Jorden.
Pleasantville.....	Atlantic.....	26	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. Van Gilder.
Woodbine.....	Cape May.....	43	15	44.7	+0.4	68	22	17	30	33	1.90	-0.87	1.28	0	3	20	7	3	w.	Arthur R. Merrill.
Cape May C. H.....	do.....	19	19	45.8	-0.8	64	* 19	22	30	29	1.71	-0.88	0.76	T.	3	14	11	5	n.w.	L. T. Garretson.
District averages.....	.....	.....	.....	44.6	+0.2	.....	.....	.....	.....	.....	1.66	+1.70	.....	0.3	5	16	7	7	n.w.	.....
THE SEA COAST.																				
Sandy Hook.....	Monmouth.....	14	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Arthur E. Jewell.
Oceanic.....	do.....	16	20	44.8	-0.2	68	18	28	* 15	26	1.10	-2.53	0.32	T.	7	14	11	5	n.w.	Rev. S. W. Knipe.
Asbury Park.....	do.....	22	18	45.1	+0.5	64	19	24	30	28	1.26	-1.88	0.55	T.	7	14	8	8	n.w.	B. H. Obert.
Atlantic City.....	Atlantic.....	16	31	45.4	+0.3	63	19	26	30	26	2.52	-0.59	1.51	0	6	15	5	10	n.w.	Section Center.
Cape May City.....	Cape May.....	17	13	46.6	0.0	62	* 19	32	30	20	1.42	-1.94	0.73	0	6	14	10	6	n.w.	U. S. Weather Bureau.
District averages.....	.....	.....	.....	45.5	+0.2	.....	.....	.....	.....	.....	1.58	-1.74	.....	T.	6	14	8	8	n.w.	.....

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

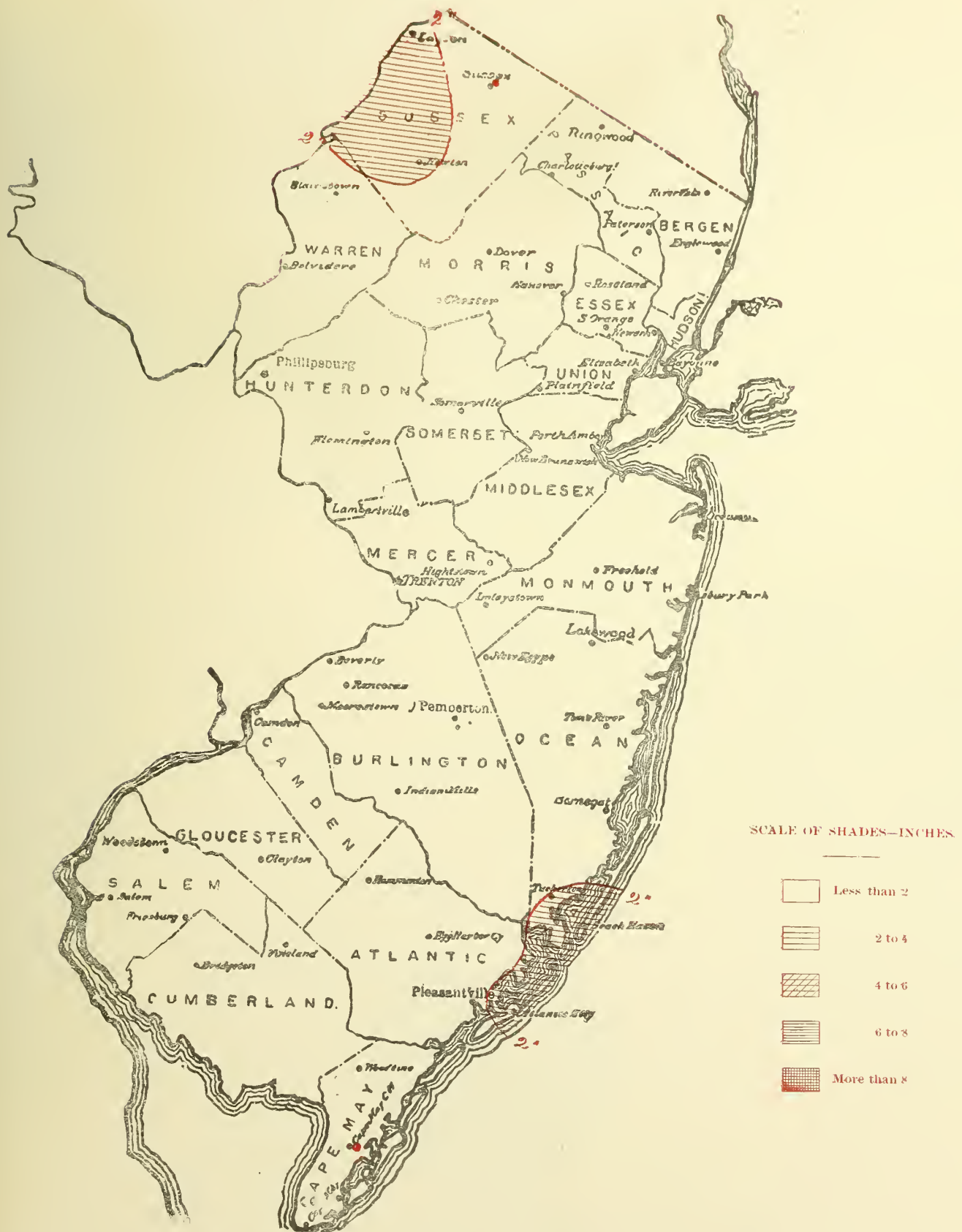
\* Occurred on more than one date.

† Received late; not considered in averages.





# Total Monthly Precipitation, November, 1906.



TOTAL PRECIPITATION FOR NOVEMBER, 1906.

[illegible]

T. Indicates amount too small to measure.



U. S. DEPARTMENT OF AGRICULTURE

REPORT FOR DECEMBER, 1906.

NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

UNDER DIRECTION OF

WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

RICHARD W. GRAY,

ACTING SECTION DIRECTOR.



BOSTON, MASS.

WEATHER BUREAU OFFICE

JANUARY 26, 1907

# Monthly Mean Isotherms and Prevailing Winds, December, 1906.





U. S. DEPARTMENT OF AGRICULTURE,  
**CLIMATOLOGICAL SERVICE**

OF THE

**WEATHER BUREAU.**

CENTRAL OFFICE: WASHINGTON, D. C.

**NEW JERSEY SECTION,**

RICHARD W. GRAY, Acting Section Director.

XIX. ATLANTIC CITY, N. J., DECEMBER, 1906. No. 12.

**GENERAL SUMMARY.**

Noteworthy features of the month were abnormal cloudiness, frequency of days with precipitation, and decided temperature changes.

The mean temperature for the State,  $33.0^{\circ}$ , was  $0.5^{\circ}$  below the normal, and  $3.3^{\circ}$  below the average for the same month of 1905. For the various districts, the Sea Coast, with a mean of  $35.8^{\circ}$ , had the highest average temperature, and the Highlands and Kittatinny Valley, with a mean of  $28.9^{\circ}$ , the lowest. There were five cold periods during the month, viz., the 4th, 8th, 12th, 19th, and 24th-25th, in which temperatures much below the normal occurred. Unseasonably warm weather followed the first, third, and last of these periods, so that the accumulated deficiency in temperature was practically overcome at the end of the month. The highest temperatures were registered, as a rule, on the 15th, except in the northern portion of the State, where they were recorded on the 1st, 6th, and 7th. The lowest temperatures occurred on the 19th in the northern portion, and on the 24th in the central and southern sections. The absolute maximum temperature,  $70^{\circ}$ , was recorded at Indian Mills and Toms River, on the 15th, and the absolute minimum,  $-5^{\circ}$ , occurred at Layton, on the 19th.

The precipitation for the State, as a whole, averaged 3.99 inches, or 0.34 of an inch above the normal. The amounts, however, in the extreme northern districts, the eastern part of the Southern Interior division and in the Sea Coast district averaged slightly below the normal. Locally, the greatest positive departure, 2.43 inches, occurred at Newark, and the greatest negative departure, 1.53 inches, at Indian Mills. The total monthly precipitation was generally well distributed, except in the extreme northeast portion of the State, where both the greatest and the least monthly amounts occurred—the former at Newark, with 6.18 inches, and the latter at Mahwah, with 2.70 inches. Relatively heavy monthly precipitation also occurred in portions of Morris, Ocean, Passaic, and Warren counties. While precipitation was general in each decade of the month, there being, as a rule, intervals of only two or three days with fair weather, the greater part of the total amount occurred from the 16th to the 18th and on the 30th-31st.

The snowfall was much below the normal, averaging only 4 inches in the Highlands and Kittatinny Valley section, and a

trifle less than 2 inches in the counties comprising the Red Sand Stone Plain division. Over the southern half of the State the snowfall was immaterial. The ground was free from snow during much the greater portion of the month and there was practically no sleighing.

Floating ice appeared in the Hudson River, at Jersey City, on the 26th. There was some ice in the Delaware River, near Beverly, after the 25th, but navigation was not interrupted.

**TEMPERATURE.**

The monthly mean,  $33.0^{\circ}$ , was 0.5 of a degree below the normal, and  $3.3^{\circ}$  below the mean for the corresponding month of 1905.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $28.9^{\circ}$ ; Red Sand Stone Plain,  $32.1^{\circ}$ ; Southern Interior,  $35.3^{\circ}$ ; Sea Coast,  $35.8^{\circ}$ .

The highest monthly mean was  $37.2^{\circ}$ , at Cape May City, and the lowest,  $27.5^{\circ}$ , at Layton.

The absolute maximum was  $70^{\circ}$ , at Indian Mills and Toms River, on the 15th, and the absolute minimum,  $-5^{\circ}$ , at Layton, on the 19th.

The absolute range for the State was  $75^{\circ}$ .

The greatest local monthly range was  $64^{\circ}$ , at Toms River, and the least,  $41^{\circ}$ , at Cape May City.

The greatest daily range was  $39^{\circ}$ , at Hightstown, on the 7th.

**PRECIPITATION.**

The average, 3.99 inches, was 0.34 of an inch above the normal, and 0.34 of an inch above the average for the corresponding month of 1905.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 4.40 inches; Red Sand Stone Plain, 4.22 inches; Southern Interior, 3.75 inches; Sea Coast, 3.58 inches.

The greatest monthly amount was 6.18 inches, at Newark, and the least, 2.70 inches, at Mahwah.

The greatest amount in any 24 consecutive hours was 2.60 inches, at Dover, on the 31st. The latter was the only excessive amount of precipitation that occurred during the month.

The average number of days with a measurable amount was 13.

The greatest snowfall for the month was 9 inches, at River Vale. The average falls for the various districts were as follows: The Highlands and Kittatinny Valley, 4.0 inches; Red Sand Stone Plain, 1.7 inches; Southern Interior, 0.2 of an inch; Sea Coast, 0.4 of an inch.

**SUNSHINE AND CLOUDINESS.**

The average number of clear days was 9; partly cloudy, 8; cloudy, 14. At Atlantic City the duration of sunshine was 40 per cent of the possible amount; at Jersey City (estimated), 40 per cent.

**WIND.**

The prevailing direction was northwest. At Atlantic City the total movement was 6,906 miles, average hourly velocity, 9.3 miles; at Jersey City, total movement, 10,312 miles, average hourly velocity, 13.9 miles.

## MISCELLANEOUS PHENOMENA.

*Hail*.—Newark, 31.

*Meteors*.—Bayonne, 3.

*Aurora*.—Plainfield, 13.

*Thunderstorms*.—Canton, 1; Moorestown, 31.

*Halos, solar*.—Indian Mills, 5; Jersey City, 25, 27.

*Halos, lunar*.—Atlantic City, 2; Jersey City, 1; Toms River, 2.

*Sleet*.—Asbury Park, 22, 27; Bayonne, 16; Bergen Point, 6, 10, 16; Canton, 5; Cape May, 5; Clayton, 6; Dover, 3, 22; Englewood, 9, 10, 16; Friesburg, 18; Hightstown, 16, 17; Jersey City, 6, 9, 16, 17; Lambertville, 27; Moorestown, 5, 16, 19, 27; Newark, 8, 10, 16; Oceanic, 16, 17, 28; Paterson, 10; Phillipsburg, 10; Rancocas, 17, 27; Somerville, 10, 17, 20, 27; Trenton, 16, 27; Tuckerton, 6; Vineland, 5.

*Fog*.—Asbury Park, 30; Atlantic City, 20, 22, 30, 31; Bayonne, 29; Bergen Point, 14, 20, 29, 30; Beverly, 13, 20, 21, 29, 30, 31; Cape May, 6, 14, 20, 30, 31; Clayton, 30; Englewood, 10, 20, 21, 29; Hightstown, 30; Jersey City, 10, 21, 29, 31; Layton, 21; Newark, 28, 29, 31; Oceanic, 10, 21, 22, 29, 31; Paterson, 21, 31; Phillipsburg, 6, 15, 16, 21, 29, 30, 31; Rancocas, 10, 20, 21; Somerville, 10, 15, 21, 22, 29, 30; Toms River, 21, 22; Trenton, 6, 21, 29, 30.

## REMARKS BY OBSERVERS.

MOORESTOWN.—The month was abnormally cloudy. The temperature averaged above the normal.—J. C. Beaus.

DOVER.—The month was cold and generally stormy. High northwest winds were of frequent occurrence.—W. C. Harris.

BEVERLY.—The Delaware River at this point was generally free from ice during the month. No severe storms occurred.—C. F. Richardson.

PHILLIPSBURG.—Cold weather occurred in each decade of the month. High northerly winds were a noteworthy feature. There was heavy precipitation at the close of the month.—D. W. Smith.

JERSEY CITY.—The month was characterized by rapid temperature changes, high winds, frequent precipitation, and lack of sunshine. Ice first appeared in the Hudson River at this city this season on the 26th.—S. K. Pearson, Jr.

## ERRATA, ANNUAL SUMMARY, 1905.

Mean temperature—Brown's Mills, May, published 63.6°, should be 63.3°; Charlotteburg, February, published 21.8°, should be 19.3°; Charlotteburg, annual, published 47.6°, should be 47.4°; Clayton, April, published 50.0°, should be 49.8°; River Vale, October, published 51.6°, should be 51.8°; River Vale, annual, published 48.2°, should be 48.3°; Sandy Hook, October, published 57.3°, should be 57.2; Trenton, December, published 47.5°, should be 39.6°; Trenton, annual, published 55.0°, should be 54.2°.

Total precipitation—Phillipsburg, December, published 3.57 inches, should be 2.73 inches; Phillipsburg, annual, published

38.98 inches, should be 38.14 inches; Salem, May, published 2.17 inches, should be omitted; Tuckerton, December, published 4.30 inches, should be 5.30 inches; Tuckerton, annual, published 46.55 inches, should be 47.55 inches.

## DELAYED REPORTS.

Toms River, June, 1906.—Mean temperature, 71.6°, departure from the normal, +2.9°; highest, 95°, on the 30th; lowest, 46°, on the 13th; greatest daily range, 31°. Total precipitation, 2.21 inches; departure from the normal, -1.68 inches; greatest in 24 hours, 0.72 of an inch. Number of rainy days, 7; clear, 15; partly cloudy, 3. Prevailing wind direction, southeast.

Woodbine, June, 1906.—Mean temperature, 71.2°; departure from the normal, +2.4°; highest, 95°, on the 29th and 30th; lowest, 51°, on the 12th; greatest daily range, 20°. Precipitation incomplete. Prevailing wind direction, west.

Toms River, July, 1906.—Total precipitation, 13.25 inches; departure from the normal, +7.86 inches; greatest in 24 hours, 3.00 inches. Number of rainy days, 19. Temperature data incomplete.

Tuckerton, October, 1906.—Mean temperature, 55.6°; departure from the normal, -0.6°; highest, 75°, on the 9th; lowest, 28°, on the 30th; greatest daily range, 20°. Total precipitation, 4.42 inches; departure from the normal, -0.13 of an inch; greatest in 24 hours, 1.40 inches; total snowfall, trace. Number of rainy days, 12; clear, 6; partly cloudy, 11; cloudy, 14. Prevailing wind direction, northeast.

Pleasantville, November, 1906.—Total precipitation, 1.91 inches. Number of rainy days, 4.

## CORRECTIONS.

Cape May City, October, 1906.—Mean temperature (page 77), published 57.6°, should be 57.7°; departure from the normal should be -1.2°. Minimum temperature, 7th (page 78), published 55°, should be 53°; maximum temperature, 31st, published 47°, should be 54°; mean maximum temperature, published 62.4°, should be 62.6°.

## COMPARATIVE DATA FOR DECEMBER.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1887.....	33.7	63	6	5.29
1888.....	34.9	66	5	3.69
1889.....	41.5	71	8	1.62
1890.....	30.9	56	3	3.89
1891.....	40.9	78	9	4.25
1892.....	30.4	69	1	1.87
1893.....	34.9	70	5	3.30
1894.....	34.8	66	-3	4.36
1895.....	37.2	76	3	2.61
1896.....	31.3	61	-15	1.43
1897.....	35.1	67	-5	4.90
1898.....	33.3	66	-2	3.53
1899.....	35.5	69	-2	2.11
1900.....	34.4	61	-2	2.50
1901.....	32.6	68	-12	7.30
1902.....	31.7	62	-11	7.23
1903.....	28.6	55	-15	4.68
1904.....	27.0	60	15	3.19
1905.....	36.3	61	5	3.65
1906.....	33.0	70	5	3.09



CLIMATOLOGICAL DATA FOR DECEMBER, 1906.

Stations	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Observer.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelting.	Number rainy days.	Number clear days.	Number partly cloudy days.		Number overcast days.	
THE HIGHLANDS & KITTAPING VALLEY.																				
Layton.....	Sussex.....	550	—	21.5	+2.1	47	* 1	1	10	3	1.4	+0.3	1.10	5.5	11	11	1	1	sw.	Warren C. Hursh.
Sussex..... b.	do.....	442	12	28.8	-0.7	37	* 1	1	10	3	1.4	+0.3	1.20	3.5	11	12	1	1	sw.	Prof. W. H. Seeley.
Newton.....	do.....	608	26	28.1	-2.2	48	7	8	10	11	5.0	-0.9	1.19	0.0	12	9	1	1	n.	Brice Bowman.
Charlotteburg.....	Passaic.....	710	11	30.1	+0.2	52	7	2	10	13	5.0	-0.9	0.72	2.2	11	11	1	1	nw.	G. S. Briggs.
Pompton Plains.....	Morris.....	5	5	30.1	-0.2	52	7	2	10	13	5.0	-0.9	0.72	2.2	11	11	1	1	uw.	River & Flood Service.
Dover.....	do.....	575	22	27.7	-2.0	50	* 6	2	10	17	8.39	-0.64	1.60	1.3	11	11	1	1	.....	William C. Harris.
Belvidere.....	Warren.....	289	16	30.2	-0.4	48	1	5	10	2	8.23	-0.5	1.93	0.0	11	10	1	1	.....	Samuel J. Hixson.
Phillipsburg.....	do.....	106	4	30.2	-1.1	52	6	6	10	30	1.98	-1.74	1.85	0.8	16	11	1	1	n.	D. W. Smith.
District averages.....				28.9	-1.2						1.40	-1.6			12	11	1	1	uw.	
THE RED SAND STONE PLAIN.																				
Mahwah.....	Bergen.....	3	3	29.0	-1.0	59	6	0	10	36	2.13	-1.45	1.73	9.0	9	15	1	1	nw.	River & Flood Service.
River Vale.....	do.....	70	15	29.0	-1.0	59	6	0	10	36	2.13	-1.45	1.73	9.0	9	15	1	1	nw.	A. C. Holdrum.
Paterson.....	Passaic.....	110	30	33.0	-0.0	50	15	10	21	31	4.83	-0.94	2.11	1.6	18	4	13	12	nw.	H. A. Probert.
Englewood.....	Bergen.....	135	16	30.8	-1.0	54	* 6	6	24	13	1.85	-0.72	0.88	0.3	14	6	6	10	nw.	William C. Tucker.
Little Falls.....	Passaic.....	3	3	31.2	-0.8	56	15	7	24	35	4.74	-0.93	1.57	2.0	0	11	2	13	nw.	River & Flood Service.
South Orange.....	Essex.....	200	35	31.2	-0.8	56	15	7	24	35	4.74	-0.93	1.57	2.0	0	11	2	13	n.	W. J. Chandler, M. D.
Chatham.....	Morris.....	3	3	31.2	-0.8	56	15	7	24	35	4.74	-0.93	1.57	2.0	0	11	2	13	w.	River & Flood Service.
Newark.....	Essex.....	140	14	32.0	-1.6	57	15	6	21	34	6.18	-2.43	2.23	1.1	17	6	5	10	uw.	Wm. Wiener.
New York, N. Y.....	New York.....	314	36	32.7	-1.3	57	15	8	21	40	3.53	-1.13	0.88	0.5	13	6	9	16	uw.	U. S. Weather Bureau.
Jersey City.....	Hudson.....	15	1	32.8	-0.2	57	6	8	21	31	4.11	-1.16	1.4	16	8	5	16	nw.	Samuel K. Pearson, Jr.	
Bayonne.....	do.....	50	16	32.8	-1.1	57	* 15	8	24	34	3.59	-1.10	0.02	1.0	13	11	1	16	nw.	John H. Eadie.
Bergen Point.....	do.....	37	9	32.2	-0.2	57	* 6	8	24	31	3.61	-0.35	1.06	1.9	12	6	10	15	nw.	Dr. W. H. Mitchell.
Elizabeth.....	Union.....	33	27	31.6	+0.3	56	15	7	24	31	1.78	-0.60	1.30	1.1	11	17	1	11	.....	W. M. Oliver.
Plainfield.....	do.....	600	19	31.3	-1.1	56	* 15	6	24	38	2.16	-0.33	1.0	1.3	14	6	11	11	sw.	John Seagle.
Somerville.....	Somerset.....	76	7	31.9	-0.4	57	15	7	24	28	4.26	-0.45	1.20	1.1	15	8	3	20	nw.	Pearl Hardestale.
Flemington.....	Hunterdon.....	187	9	31.8	+0.8	58	15	7	24	29	1.17	-0.04	1.47	1.0	13	12	1	11	c.	H. E. Deats.
New Brunswick.....	Middlesex.....	61	53	32.7	-0.5	60	10	9	* 4	35	1.25	-0.58	1.40	5.0	1	14	1	11	w.	Wm. T. Warner.
College Farm.....	do.....	100	11	32.2	+0.6	60	15	4	24	26	0.71	-0.3	0.88	0.3	12	10	1	16	n.	Miss J. A. Voorhees.
Lambertville.....	Hunterdon.....	95	20	32.7	-0.5	60	15	0	24	32	4.2	-0.74	1.4	1	11	15	3	11	nw.	William R. Bowne.
District averages.....				31.1	-0.6						3.61	-0.61			14	10	1	1	uw.	
THE SOUTHERN INTERIOR.																				
Hightstown.....	Mercer.....	85	15	32.4	-0.3	61	15	0	24	33	1.7	-0.12	1.07	0.2	9	8	8	15	uw.	Ernst Weuger.
Trenton.....	do.....	60	37	32.4	-0.3	61	15	0	24	33	1.7	-0.12	1.07	0.2	9	8	8	15	nw.	E. R. Cook.
Imharts town.....	Monmouth.....	100	20	32.5	-1.2	66	12	7	4	10	3.09	-0.11	0.90	1.2	11	5	13	13	nw.	E. C. Price, M. D.
Lakewood.....	Ocean.....	5	6	31.6	+2.7	67	15	0	24	32	1.2	-0.69	0.79	0.5	13	15	10	6	nw.	C. A. Roe.
Beverly.....	Burlington.....	9	12	32.2	-0.6	63	15	0	* 21	30	2.81	-0.72	0.65	1.1	11	4	14	13	uw.	C. F. Richardson.
Rancocas.....	do.....	68	21	32.2	-0.6	64	15	8	4	10	3.4	-0.75	1.00	0.3	11	5	9	17	nw.	Spencer Haines.
Brown's Mills..... c.	do.....	71	1	33.8	-0.3	67	15	8	24	38	1.2	-0.18	0.80	0.6	16	7	14	10	nw.	F. J. Miller.
Moorestown.....	do.....	71	42	34.2	+1.4	65	15	8	21	37	0.34	-0.18	0.80	0.6	16	7	14	10	nw.	John C. Beans.
Philadelphia, Pa.....	Philadelphia.....	117	36	35.3	-0.3	62	12	11	24	35	0.07	+1.10	0.07	0.2	15	6	6	19	nw.	U. S. Weather Bureau.
Toms River..... b.	Ocean.....	33	15	34.7	-0.6	70	15	6	24	33	5.53	+1.63	1.40	1.0	10	9	1	15	nw.	F. G. Bunnett.
Indian Mills.....	Burlington.....	6	6	36.3	+3.6	70	15	9	24	30	1.87	-1.53	1.1	1	13	8	15	10	nw.	James Armstrong.
Clayton.....	Gloucester.....	126	10	35.0	+1.3	62	15	10	24	35	1.20	+0.44	1.1	1	11	14	4	13	n.	Wm. T. Farley.
Duckertown.....	Ocean.....	23	9	35.9	+2.6	57	15	8	* 24	32	1.50	-1.11	1.30	0.3	11	6	12	13	nw.	F. R. Austin.
Friesburg..... a.	Salem.....	100	14	36.1	+2.5	68	15	10	24	32	1.93	+0.53	1.29	1.1	12	6	13	12	w.	H. C. Perry.
Vineland.....	Cumberland.....	118	39	35.1	+0.9	67	15	10	* 24	33	3.35	-0.44	1.78	0.2	12	8	13	10	nw.	Alfred Chalmers.
Canton.....	Salem.....	24	5	36.1	+0.9	67	15	10	* 24	30	4.01	-0.23	1.35	1.1	8	12	1	12	.....	J. H. Maskell.
Bridgeton.....	Cumberland.....	30	20	36.4	+3.4	68	15	10	* 24	30	4.01	-0.23	1.35	1.1	8	11	4	16	nw.	Henry A. Jorden.
Pleasantville.....	Atlantic.....	26	4	36.4	+3.4	68	15	10	* 24	30	4.01	-0.23	1.35	1.1	8	12	1	12	.....	L. Van Gilder.
Woodbine.....	Cape May.....	43	15	36.6	+1.5	65	15	10	25	31	3.57	-0.11	1.0	1	7	16	8	7	w.	Arthur R. Merrill.
Cape May C. H.....	do.....	19	10	36.9	-0.7	64	15	11	24	30	3.61	+0.25	1.1	1	9	6	9	16	nw.	L. T. Garretson.
District averages.....				35.3	-0.0						3.78	-0.20			11	10	10	11	nw.	
THE SEA COAST.																				
Sandy Hook.....	Monmouth.....	14	3	35.0	-0.8	65	15	10	24	21	3.90	+0.01	1.68	1.5	14	9	9	13	nw.	Arthur E. Jewell.
Oceanic.....	do.....	16	20	35.0	-0.8	65	15	10	24	21	3.90	+0.01	1.68	1.5	14	9	9	13	w.	Rev. S. W. Knipe.
Asbury Park.....	do.....	22	18	35.0	-0.8	65	15	10	24	21	3.90	+0.01	1.68	1.5	14	9	9	13	w.	B. H. Ober.
Atlantic City.....	Atlantic.....	16	31	36.2	+0.1	54	* 1	10	24	33	7.57	-0.12	1.35	1.1	15	5	8	18	uw.	Section Center.
Cape May City.....	Cape May.....	17	13	37.2	-0.7	54	* 6	13	24	31	3.72	-0.11	1.16	1.1	15	4	15	12	n.	U. S. Weather Bureau.
District averages.....				35.8	-0.4						3.58	-0.21			14	6	10	15	nw.	

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

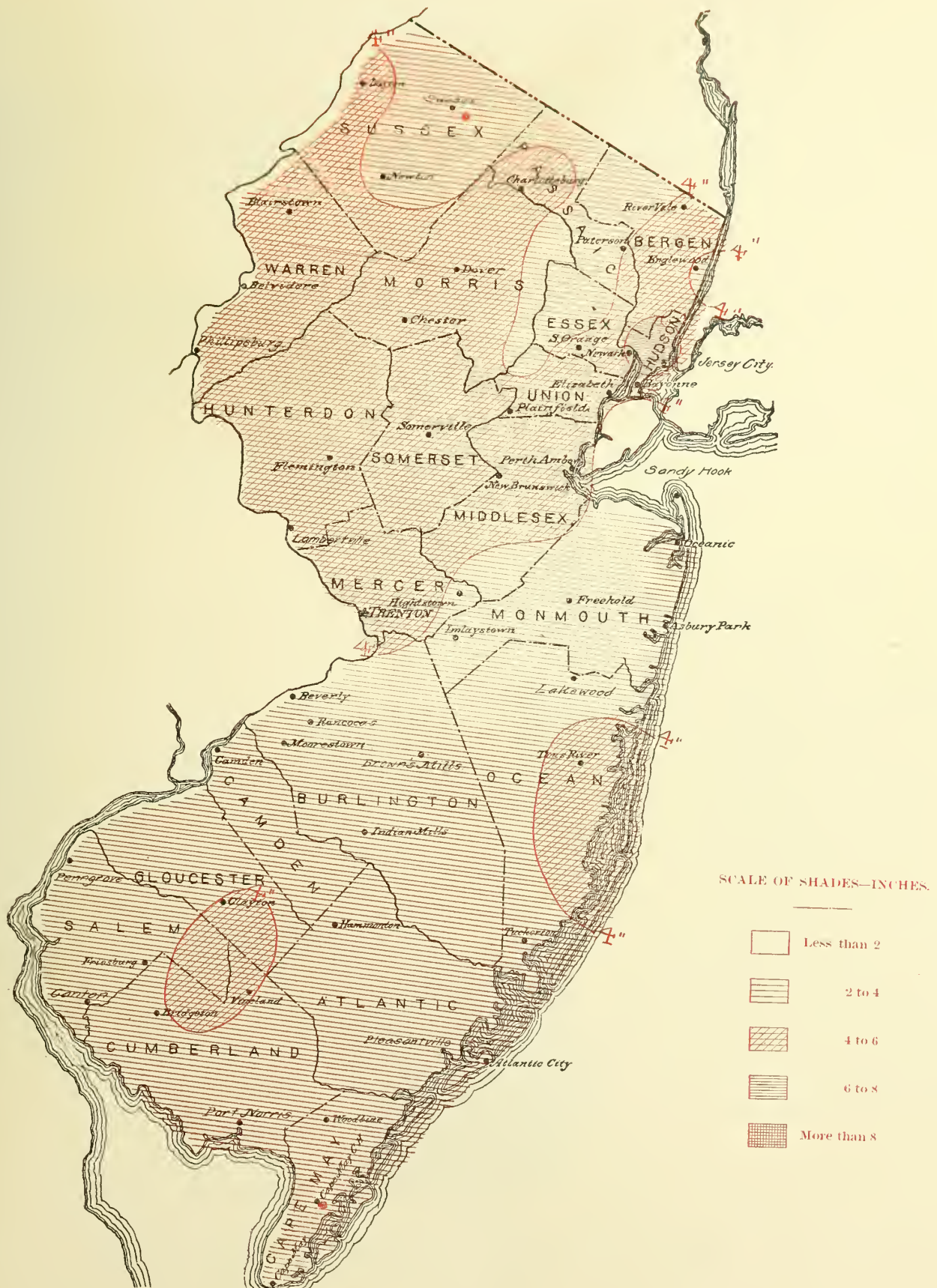
\* Occurred on more than one date.

† Received late; not considered in averages.

DAILY MAXIMUM AND MINIMUM TEMPERATURES FOR DECEMBER, 1906.



# Total Monthly Precipitation. December, 1906.



## TOTAL PRECIPITATION FOR DECEMBER, 1906.

Stations.	Day of Month.																															Total.		
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.			
THE HIGHLANDS & KITTA- TINNY VALLEY.																																		
Layton			.10			.60				.03					.15	.05	.17			.44	.10	.05						.20	.25		.09	1.66	4.13	
Sussex	.03		.05			.58				.43					T.	.03	.15			.48		.33						.05			.22	1.26	3.61	
Newton		.20				.63	T.			.23				T.		.10	.33			.31	.06	.04						.07	.06		.13	1.46	3.71	
Charlotteburg		.18				.62				.70					*	.08	.45	T.		.16	.48							*	.03	.02	*	.238	5.03	
Pompton Plains		.03	.04			.41	.20			.31	.42			*	.12		.35		*	.20	.05	.66						.10	T.	T.	T.	2.60	5.59	
Dover	T.	.18				.58				.75						.04	.51			.65	.06	.04							.12		.13	1.94	5.28	
Belvidere						.86				.54	.39					.04	.51			.58	.02	.03						.11	.02		.17	1.85	4.98	
Phillipsburg			.02			.71	T.		T.	.68	.15					.05	.07	.51	.01															
THE RED SAND STONE PLAIN.																																		
Mahwah			.10	.08	.14	.37				.10	.68				*	.21	.09			.12	.52							*	.03		*	.26	2.70	
River Vale		.50								1.76						.30	.10			.80	.22							*	.05		.11	.75	5.43	
Paterson	T.	.10		*	.43				*	.40	.33			*	.02	.04	.39	.02		.73	.08	.02						.01	*		.31	.68	3.85	
Englewood	T.	.09		.03	.26		.01			.69	.03			*	.06	.17	.49		T.	.69		.03	T.	T.	T.			*	.05		.21	1.16	3.85	
Little Falls	T.	.02	.05	*	.11	.34	T.		T.	.60	.07			*	.06	*	.62	.23		T.	1.05	*	.09				T.	*		.20	1.57	4.74		
South Orange	T.					.55		T.		.60				*	.06	*	.30	.75			.20	.80		.20			T.	*		.06	*	.20	3.67	
Chatham	*	.04	*	.05		.05	.60		T.	.07	.65					.16	.39		T.	.05	.98	.45	.04					.01	.01		.25	2.23	6.18	
Newark	T.	.05		.05	.45		.20		T.	.81	.02				.01	.04	.16		T.	.78	T.	.01	T.	T.	T.			.01	T.		.21	.06	3.53	
New York, N. Y.	T.	.07		.01	.24		T.		T.	.64	.02			T.	.03	.11	.44		T.	.78	.09	.03	.01	T.			T.	T.		.17	1.16	4.13		
Jersey City	T.	T.	.09		.34		T.		.01	.17	.54				.03	.08	.54		T.		.78	.05	.02	T.			T.	.04	T.	.30	.92	3.59		
Bayonne	T.	.08			.36				.01	.40	.39				T.	.14	.10	T.			.78	.05	.02				T.	.09		.10	1.66	4.63		
Bergen Point		.08			.46				.02	.48						.52	.51				.94	.05	.02				T.	T.	T.	*	1.40	4.38		
Elizabeth		.10		*	.37		T.	*		.71						.80		T.		*	1.00						T.	T.	T.	*	1.40	4.38		
Plainfield	T.	.03			.40				T.	.41	.26				.05	.10	.57	.01		.70	.02	.10					.07	T.		.10	1.30	4.16		
Somerville	T.	.05			.43					.26	.47				.05	.10	.55	.05		.65	.05	.21					T.	.09	T.	.17	1.47	4.47		
Flemington	T.				.54	T.				.30	.40			T.	.06	.14	.55	.06			.59	.03	.11				.10	T.		.15	.85	4.25		
New Brunswick		.10			.35					.30	.80			.05	T.	.05	.05			1.40		.05					T.			.17	1.24	4.22		
College Farm		T.			.42					.24	.52				.17	.51	.04			.56	.12	.06					.05	.06						
Lambertville	.02				.50					.62						.16	.67					.15												
THE SOUTHERN INTERIOR.																																		
Hightstown			T.			.35	T.			.28	.48					.09	.58	.02		.66	.55	T.							T.		.27	1.07	3.70	
Trenton	T.		T.		.17	.26	T.			.76	.49			T.	T.	.47	.49		*	.46								.02			.36	.70	4.89	
Inlaystown			.03			.27	.04			.76						.05	.79	.15		.43	.03	.02							.10		.15	.71	3.27	
Lakewood	.02					.26				.13	.43				T.	.10	.57	T.		.51		.11	T.					T.	.02		.17	.42	2.89	
Beverly		.01			T.	.33	T.		T.	.30	.35				T.	.10	.90		T.	.36	T.	.11	T.					T.		.02	T.	.73	3.45	
Rancocas	T.				.10	.25	T.		T.	.30	.47					.10	.90		T.	.36	T.	.11	T.					T.		.02	T.	.73	3.45	
Brown's Mills					*	.34	T.		T.	.16	.58				T.	.05	.80	.11	*	.37	.03	.16	T.					.02	.10	.03	.15	.44	3.34	
Moorestown	T.				*	.34	T.		T.	.50	.02				T.	.08	.95		.03	.27	.06	.03	T.	T.	T.			*	.08	.02	T.	.08	.57	3.07
Philadelphia, Pa.	T.			.12	.23	T.			.01	.70					T.	* 1.25				.96								*	1.40			.65	5.52	
Toms River				*	.56				*	.12	.50				T.	.03	1.24	.25		.35	.05	T.						*	.20		.16	.57	3.87	
Indian Mills	T.				.40	T.			*	.12	.50				T.	.03	1.24	.25		.35	.05	T.						*	.20		.16	.57	3.87	
Clayton	T.				.52	T.				.08					T.	*	2.00			.47	.19							*	.15		.79	4.20		
Tuckerton					.30	.05			.07	.42	.61				T.	.05	* 1.20			.46	.46	.04						*	.28		.05	.27	3.93	
Friesburg										.01	.61				T.	.05	* 1.20			.46	.46	.04						*	.28		.05	.27	3.93	
Vineland					.28	T.			T.	.01	.61				T.	.178	.04	*		.67		.03	T.					T.		.11	.08	.35	3.35	
Canton					.40				.05	.55					T.	.135				.51	.04							T.		.20		.10	.59	4.01
Bridgeton					.35				T.	.67						.135			*	.60	T.	.06						T.	.18		.10	.59	4.01	
Pleasantville					*	.25				.08	.85				*	1.43	.08	T.		.87							T.			.07	*	1.28	3.57	
Woodbine					*	.30				.30						1.05				.61	T.	.03					T.			.06		.12	.45	3.64
Cape May C. H.					.17	T.				.39	.71				.19		T.																	
THE SEA COAST.																																		
Sandy Hook			.05			.22				.18	.42				.04	.10	.72	.06		.62	.10	.08							.14		.16	1.08	3.99	
Oceanic	T.		.02	.02		.16				.16	.34				T.	.05	.73	.10		.41	.01	.07					T.			.15	.70	2.92		
Asbury Park	T.		.01		.13	.06	T.		T.	.40	.60					1.16			.20	.46		.02	T.	T.	T.			.01	.01	.05	.12	.43	3.72	
Atlantic City	T.				.03	.21	.01		T.																									
Cape May City																																		

|| Precipitation measured at 8 a. m., 75th meridian time.

\* Precipitation included in that of following day.

T. Indicates amount too small to measure.



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UNWJ  
U. S. DEPARTMENT OF AGRICULTURE

ANNUAL SUMMARY, 1906.

NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

UNDER DIRECTION OF

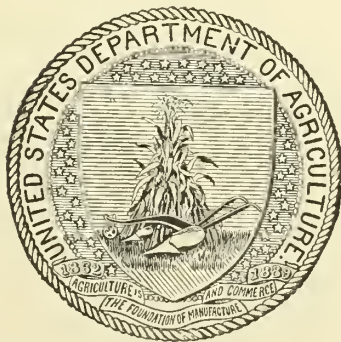
WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.

WEATHER BUREAU OFFICE

FEBRUARY 7, 1907

# Annual Mean Isotherms and Prevailing Direction of Wind, 1906.





U. S. DEPARTMENT OF AGRICULTURE,  
**CLIMATOLOGICAL SERVICE**

OF THE

**WEATHER BUREAU.**

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,  
 LEVI A. JUDKINS, Section Director.

VOL. XIX.

ATLANTIC CITY, N. J.

YEAR, 1906.

**GENERAL SUMMARY.**

The year 1906 is placed on record as having averaged slightly warmer than usual. The annual mean temperature was the highest that has occurred since the year 1900, when the mean was 53.8°. The most pronounced local excess in average temperature for 1906 was nearly 2° in the southeastern portion of Passaic County. In the central portion of Morris County the temperature for the year was exactly normal, while in parts of Cape May, Cumberland, Hudson, Middlesex and Monmouth counties the positive departures from normal conditions were slight, ranging from 0.1° to 0.5°.

January, August, and September were marked by high average temperatures, especially the first-mentioned month, which with its excess in daily mean temperature of 6.5°, and an absolute maximum temperature of 74°, was the warmest January in a period of 16 years. On the contrary, March was conspicuous for abnormally low temperatures, the local departures below the normal having been more than 6° in numerous counties. The absolute maximum temperature for the month named was exceptionally low, and the absolute minimum temperature for the year occurred in the extreme latter part of the month, instead of in January or February, as is the rule in this latitude. The low mean temperature of March largely overcame the accumulated excess, made during January, and the slight excess existing at the end of the year was produced, in the main, during August and September. The general thermal conditions of the remaining months of the year were without particular feature, altho the absolute maximum temperature for July was lower than has been recorded in that month in a period of 20 years, and August was characterized by excessively humid, oppressive weather.

The absolute maximum temperature for 1906 occurred early in the summer, and is one of the two annual maximum values of less than 100° credited to the State since 1887.

The total precipitation for the year was generally well distributed over the more northerly counties, notably in the Highlands and Kittatinny Valley section, where the annual amounts ranged from 44 to 51 inches and averaged practically the normal. A large deficiency in precipitation (averaging about 5 inches) occurred in the counties comprising the Red Sand Stone

Plain division, where the totals ranged from 39 to 48 inches, the greatest local deficiencies having been in portions of Hudson, Middlesex, and Union counties. Over the southern half of the State the annual precipitation exhibited vast irregularities. Over the extreme southern portion of Cape May County the actual rainfall was less than 37 inches, while in the eastern part of Atlantic County, immediately to the north, an amount of nearly 49 inches was recorded. In portions of Burlington and Cumberland counties the precipitation for the year was slightly more than 50 inches, and was well above the normal. The region of heaviest precipitation, however, embraced the interior of Ocean County, where a very large, but not unprecedented, total of about 68 inches was received.

With one exception the precipitation during the winter months was less than usual. The spring season furnished a trifle more than the normal amount of rain, but in May the distribution of moisture was unfavorable, there having been in that month a brief, tho rather severe, drought. During summer the rainfall was steadily above the normal over the greater portion of the district, the greatest excess having occurred in August and the least in July. Autumn, with the exception of October, was a dry season—November was the driest month of the year, as August was the wettest.

The annual snowfall averaged approximately 24 inches. Appreciable amounts of snow fell in January, February, March, November, and December. The falls for January, February, and December were much below the normal, the January average having been only 3 inches, while for March and November (in the far north) the depths were so great as to afford excellent sleighing. In March the snowfall over a large part of the State ranged from 10 to 23 inches, and in the northern interior the ground was covered during the most of the last half of the month.

Sunshine for the year as a whole was deficient.

**TEMPERATURE.**

The annual mean was 52.8°, or 1.0° above the normal, and 1.5° higher than the mean for the year 1905.

The annual means for the various districts were as follows: The Highlands and Kittatinny Valley, 50.1°; Red Sand Stone Plain, 52.9°; Southern Interior, 54.3°; Sea Coast, 53.7°.

The departures from the normal for the various districts were as follows: The Highlands and Kittatinny Valley, +0.9°; Red Sand Stone Plain, +1.1°; Southern Interior, +1.1°; Sea Coast, +0.7°.

The local departures from the normal ranged from 0.0°, at Dover, to +1.9°, at Paterson.

The highest annual mean was 55.7°, at Bridgeton, and the lowest, 48.3°, at Layton.

The absolute maximum temperature was 98°, at Tuckerton, on June 30, and the absolute minimum, —15°, at Layton, on March 24.

The annual range for the State was 113°.

The greatest local annual range was 107°, at Layton, and the least, 79°, at Cape May City.

## PRECIPITATION.

The annual average was 46.38 inches, or 1.12 inches below the normal, and 4.32 inches greater than the average for the year 1905.

The annual averages for the various districts were as follows: The Highlands and Kittatinny Valley, 47.30 inches; Red Sand Stone Plain, 44.42 inches; Southern Interior, 50.29 inches; Sea Coast, 43.49 inches.

The departures from the normal for the various districts were as follows: The Highlands and Kittatinny Valley, —0.61 of an inch; Red Sand Stone Plain, —5.43 inches; Southern Interior, +4.52 inches; Sea Coast, —2.94 inches.

The local departures from the normal ranged from —10.32 inches, at Elizabeth, to +18.54 inches, at Toms River.

The greatest annual amount was 67.68 inches, at Toms River, and the least, 36.77 inches, at Cape May City.

The greatest local monthly fall was 17.91 inches, at Toms River, in August, and the least, 0.75 of an inch, at Asbury Park, in September.

The greatest fall in any 24 consecutive hours was 7.15 inches, at Indian Mills, on August 2.

The average number of days with a measurable amount of precipitation was 121.

The average annual depths of snow for the various districts were as follows: The Highlands and Kittatinny Valley, 40 inches; Red Sand Stone Plain, 23 inches; Southern Interior, 14 inches; Sea Coast, 18 inches.

The greatest annual depth of snow was 46.7 inches, at Sussex.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 146; partly cloudy, 112; cloudy, 107.

## WIND.

The prevailing direction for the year was northwest.

## MISCELLANEOUS PHENOMENA.

*Auroras.*—Auroras were observed in February, September, November, and December.

*Hail.*—Hail occurred in April, May, June, July, August (at 1 station), September, October, and December (at 1 station). The most destructive hail storms occurred in June.

*Sleet.*—Sleet occurred in January, February, March, April, May (at 1 station), October (at 3 stations), November, and December. Sleet was most numerous reported in December.

*Fog.*—Fog was common to all of the months of the year, altho during August there was much less than usual. The months with the greatest frequency of fog were June, July, September, and December.

*Thunderstorms.*—The total number of thunderstorms reported during the year was 1,060, as follows: January, 6; February, 6; March, 21; April, 64; May, 124; June, 257; July, 260; August, 161; September, 113; October, 43; November, 3; December, 2.

*Excessive precipitation.*—Excessive precipitation (2.50 inches, or more, in any 24 consecutive hours), occurred in March at 8 stations, in April at 6 stations, in May at 3 stations, in June at 6 stations, in July at 9 stations, in August at 14 stations, in September at 3 stations, in October at 4 stations, and in December at 1 station.

## KILLING FROSTS.

The following table shows the dates of last killing frosts in spring and first killing frosts in autumn:

Stations.	Last killing frost.	First killing frost.
Asbury Park.....	Apr. 3	Oct. 12
Atlantic City.....	Apr. 3	Nov. 9
Bayonne.....	Apr. 3	Oct. 12
Belvidere.....	May 11	Oct. 12
Bergen Point.....	Apr. 24	Nov. 14
Beverly.....	Apr. 24	Oct. 13
Bridgeton.....	May 10	Oct. 12
Brown's Mills.....	May 11	Oct. 12
Canton.....	Apr. 24	Oct. 12
Cape May City.....	Apr. 3	Nov. 30
Cape May C. H.....	Apr. 3	Oct. 12
Charlottesville.....	May 11	Oct. 12
Clayton.....	May 11	Oct. 12
College Farm.....	May 11	Oct. 12
Dover.....	May 11	Oct. 12
Elizabeth.....	Apr. 3	Oct. 13
Englewood.....	Apr. 24	Oct. 12
Flemington.....	Apr. 7	Oct. 13
Friesburg.....	May 11	Oct. 12
Hightstown.....	May 11	Oct. 12
Imlaystown.....	.....	Oct. 12
Indian Mills.....	Apr. 7	Oct. 12
Jersey City.....	Apr. 24	Oct. 12
Lakewood.....	Apr. 3	Oct. 12
Lambertville.....	May 11	Oct. 12
Layton.....	May 11	Oct. 13
Moorestown.....	May 11	Oct. 12
Newark.....	Apr. 3	Oct. 12
New Brunswick.....	.....	Oct. 12
Newton.....	May 11	Oct. 12
Oceanic.....	Apr. 3	Oct. 12
Paterson.....	May 11	Oct. 12
Phillipsburg.....	May 11	Oct. 12
Plainfield.....	May 11	Oct. 13
Rancocas.....	May 11	Oct. 12
River Vale.....	May 11	Oct. 12
Sandy Hook.....	Apr. 3	.....
Somerville.....	May 11	Oct. 12
South Orange.....	May 11	Oct. 13
Sussex.....	May 11	Oct. 13
Toms River.....	May 11	Oct. 12
Trenton.....	Apr. 24	Oct. 12
Tuckerton.....	Apr. 24	Oct. 12
Vineland.....	May 11	Oct. 12
Woodbine.....	May 11	Oct. 12

## COMPARATIVE ANNUAL DATA.

Year.	Temperature.			Total precipitation.
	Average.	Highest.	Lowest.	
1887.....	51.1	102	-4	47.66
1888.....	50.0	104	-12	52.20
1889.....	52.8	96	-3	63.33
1890.....	53.2	101	0	49.34
1891.....	53.2	102	1	47.98
1892.....	51.4	105	-6	42.04
1893.....	50.8	103	-21	47.90
1894.....	53.0	106	-11	47.37
1895.....	51.7	109	-12	37.29
1896.....	51.7	105	-15	42.51
1897.....	52.0	102	-6	51.72
1898.....	53.2	107	-15	52.35
1899.....	52.1	103	-21	45.84
1900.....	53.8	104	-9	42.71
1901.....	51.4	107	-8	51.80
1902.....	51.8	100	-11	59.41
1903.....	51.7	100	-16	56.25
1904.....	49.3	100	-34	37.41
1905.....	51.3	102	-18	42.06
1906.....	52.8	98	-15	46.38



## Climatological Data for the Year 1906.

Stations.	Counties.	Elevation, feet.	Temperature (degrees Fahrenheit).						Precipitation (inches)						Sky.				Prevailing direction of wind.	
			Length of record, years.	Annual mean.	Highest.	Date.	Lowest.	Date.	Length of record, years.	Total for the year.	Greatest monthly.	Month.	Least monthly.	Month.	Total snowfall.	Number rainy days.	Number clear days.	Number partly cloudy days.		Number cloudy days.
THE HIGHLANDS & MOUNTAIN VALLEY.																				
Layton	Sussex	550	7	48.3	92	Aug. 6	-15	Mar. 21	7	43.77	5.64	July	1.62	Sept.	4.35	116	232	55	71	SW
Sussex	do	442	12	50.3	92	May 18	-7	Mar. 25	12	43.65	6.11	July	1.37	Nov.	46.7	102	194	100	71	W.
Newton	do	678	27	50.1	93	*Aug. 5	-5	Mar. 25	24	48.62	5.97	May	2.10	Nov.	41.0	133	182	96	87	W.
Charlotteburg	Passaic	719	11	49.5	90	May 18	-7	Mar. 25	11	49.82	7.51	July	1.53	Nov.	34.2	112	188	116	0	W.
Pompton Plains	Morris	do	do	do	do	do	do	do	3	50.97	9.18	June	1.79	Nov.	do	do	do	do	do	HW
Dover	do	575	22	49.0	93	Aug. 6	-1	Feb. 6	22	48.65	7.58	July	1.51	Nov.	39.5	110	55	169	1	W.
Belvidere	Warren	289	16	51.8	94	May 18	-1	Feb. 6	16	46.82	6.59	Oct.	1.98	Nov.	36.1	105	198	56	111	W.
Phillipsburg	do	196	4	52.1	94	*Aug. 5	-1	Feb. 6	4	46.14	5.47	Oct.	1.44	Nov.	33.9	138	169	88	108	W.
THE RED SAND STONE PLAIN.																				
Mahwah	Bergen	do	do	do	do	*Aug. 5	-7	Feb. 11	3	46.37	7.41	July	1.69	Nov.	do	do	do	do	do	HW
River Vale	do	70	15	do	92	Aug. 5	-7	Feb. 11	15	do	6.86	July	do	Nov.	do	do	do	do	do	HW
Paterson	Passaic	110	37	53.9	96	Aug. 6	4	Feb. 6	28	47.45	5.91	Mar.	1.31	Nov.	29.2	129	89	202	74	HW
Englewood	Bergen	135	12	51.6	93	Aug. 6	2	Feb. 6	12	44.50	6.42	Apr.	1.71	Nov.	26.5	118	138	72	150	HW
Little Falls	Passaic	do	do	do	do	do	do	do	3	44.25	6.77	July	1.43	Nov.	do	do	do	do	do	HW
South Orange	Essex	200	37	51.7	91	Aug. 6	1	Feb. 6	37	45.18	5.29	Apr.	1.06	Nov.	23.5	97	do	do	do	W.
Chatham	Morris	do	do	do	do	do	do	do	3	44.51	5.94	July	1.66	Sept.	do	do	do	do	do	HW
Newark	Essex	140	64	53.0	94	*Aug. 5	1	Feb. 6	64	43.82	6.18	Dec.	1.37	Nov.	26.0	124	105	145	115	W.
New York, N. Y.	New York	314	36	53.5	93	*June 30	5	Feb. 6	36	41.82	5.78	Apr.	1.28	Nov.	21.9	121	110	121	134	HW
Jersey City	Hudson	15	1	53.8	96	Aug. 6	4	Feb. 6	1	43.47	6.07	Mar.	1.40	Nov.	27.7	136	124	115	126	HW
Bayonne	do	50	16	52.9	94	*Aug. 6	3	Feb. 6	16	42.66	5.21	Apr.	1.27	Nov.	22.4	145	139	102	124	HW
Bergen Point	do	37	9	52.7	92	*Aug. 5	2	Feb. 6	9	44.63	5.91	Apr.	1.34	Nov.	23.1	117	86	192	87	HW
Elizabeth	Union	33	27	54.2	96	June 30	2	Feb. 6	27	39.40	4.87	May	1.28	Nov.	17.4	98	239	47	79	W.
Plainfield	do	100	19	52.1	94	Aug. 6	1	Feb. 6	19	47.83	5.99	July	1.26	Nov.	28.4	142	116	147	102	SW
Somerville	Somerset	76	26	52.7	96	Aug. 6	3	*Jan. 10	26	46.39	5.98	July	1.65	Nov.	23.5	133	155	59	151	HW
Flemington	Hunterdon	187	9	52.7	96	Aug. 6	2	Feb. 6	9	44.07	6.28	July	1.30	Nov.	21.0	125	189	82	91	W.
New Brunswick	Middlesex	61	53	do	94	Aug. 6	3	Feb. 6	53	do	6.77	Mar.	1.62	Nov.	22.2	do	do	do	do	W.
College Farm	do	100	11	52.4	93	*Aug. 6	-1	Feb. 6	11	41.90	6.10	July	1.50	Nov.	12.8	110	191	90	84	W.
Lambertville	Hunterdon	95	20	53.6	94	*June 30	3	Feb. 6	20	46.42	6.10	July	1.14	Sept.	24.0	101	203	86	82	HW
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	15	do	92	*June 30	do	do	15	do	8.02	Aug.	1.07	Sept.	do	do	do	do	do	SW
Trenton	do	60	41	54.6	94	June 30	6	*Feb. 3	41	46.91	6.44	Aug.	0.80	Sept.	7.6	97	64	211	96	SW
Julystown	Monmouth	106	20	do	94	Aug. 6	3	Feb. 6	20	48.27	8.11	Aug.	1.27	Sept.	14.9	118	151	135	79	W.
Lakewood	Ocean	54	6	53.2	91	*May 18	4	Feb. 6	6	47.63	8.74	Aug.	0.86	Sept.	11.5	121	207	97	61	HW
Beverly	Burlington	30	22	53.9	94	*June 30	4	*Jan. 10	22	51.66	8.92	Aug.	1.36	Nov.	1.82	133	94	172	69	HW
Rancocas	do	68	do	do	do	do	do	do	21	53.38	10.23	Aug.	1.64	Nov.	15.9	128	141	61	165	HW
Brown's Mills	do	71	2	do	95	June 30	do	do	21	do	8.96	Aug.	1.56	Nov.	do	do	do	do	do	SW
Moorestown	do	71	42	53.5	92	*June 30	4	Feb. 6	42	49.75	9.43	Aug.	1.70	Nov.	17.1	142	127	95	143	HW
Philadelphia, Pa.	Philadelphia	117	36	55.3	96	June 30	8	Feb. 6	36	51.87	9.56	Aug.	0.36	Sept.	18.0	158	97	115	153	HW
Toms River	Ocean	33	15	do	95	June 30	2	Jan. 10	15	67.68	17.91	Aug.	1.69	Nov.	do	do	do	do	do	HW
Indian Mills	Burlington	76	6	54.6	97	*June 30	0	Jan. 10	6	51.22	12.48	Aug.	0.92	Sept.	17.7	135	117	130	88	HW
Clayton	Gloucester	126	10	54.2	93	June 30	5	*Jan. 10	10	49.20	11.58	Aug.	1.65	Nov.	8.8	123	108	71	96	HW
Tuckerton	Ocean	23	9	53.5	98	June 30	-2	Jan. 10	9	47.09	11.36	Aug.	1.72	June	12.0	117	124	142	99	SW
Friesburg	Salem	143	9	51.5	96	Aug. 6	4	Jan. 10	14	48.02	7.59	Aug.	1.63	Sept.	13.0	138	96	183	86	W.
Vineland	Cumberland	118	39	51.3	96	June 28	1	Jan. 10	39	50.65	12.51	Aug.	1.23	Sept.	11.4	138	140	148	77	HW
Canton	Salem	24	do	do	do	do	do	do	5	49.30	10.27	Aug.	1.56	Nov.	do	84	207	65	93	HW
Bridgeton	Cumberland	30	20	55.7	97	*June 29	6	Jan. 10	20	47.71	7.38	Aug.	0.91	Sept.	13.5	101	175	60	130	HW
Pleasantville	Atlantic	26	do	do	do	do	do	do	4	do	9.60	Aug.	1.91	Nov.	do	do	do	do	do	W.
Woodbine	Cape May	43	15	54.2	95	*June 29	3	Jan. 10	15	do	9.88	Aug.	1.06	Sept.	do	do	do	do	do	W.
Cape May C. H.	do	19	19	54.8	92	June 30	8	Feb. 6	17	44.33	6.92	Aug.	1.54	Apr.	13.3	111	120	129	116	HW
THE SEA COAST.																				
Sandy Hook	Monmouth	14	3	do	94	Aug. 6	7	Feb. 3	3	do	8.28	July	do	Nov.	do	do	do	do	do	W.
Oceanic	do	16	20	53.3	91	*June 30	5	Feb. 3	20	42.98	5.46	July	1.10	Nov.	22.7	131	152	134	79	W.
Asbury Park	do	22	18	53.1	94	*June 30	5	Feb. 3	18	45.42	7.92	Aug.	0.75	Sept.	23.3	130	143	94	128	W.
Atlantic City	Atlantic	16	31	53.5	96	June 30	8	Feb. 6	31	48.80	8.35	Aug.	1.83	Apr.	12.6	135	83	106	176	SW
Cape May City	Cape May	17	13	54.1	88	*June 29	9	Feb. 6	13	36.77	5.42	June	1.17	Apr.	13.0	141	97	168	100	S.

\* Occurred on more than one date.

Monthly and Annual mean temperatures for the year 1906, with departures from the normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.
<b>THE HIGHLANDS &amp; KIT-TATINNY VALLEY.</b>																										
Layton .....	31.0	+3.0	24.4	+3.0	27.6	-0.5	47.2	+0.8	57.7	-1.0	67.6	+2.0	70.3	-1.0	71.8	+3.8	64.2	+1.9	51.8	+1.4	38.6	+0.7	27.5	+2.1	48.3	+1.1
Sussex .....	33.9	+7.6	26.9	+1.1	30.4	-0.9	50.2	+1.3	60.0	-0.6	69.0	+1.6	71.4	-0.9	72.6	+2.8	65.3	+2.4	53.2	+0.5	40.4	-0.7	28.8	-0.7	50.3	+0.7
Newton .....	33.7	+8.0	26.4	-2.1	29.9	-4.6	49.2	+1.0	59.6	-0.1	70.0	+1.4	72.2	-0.5	73.2	+2.9	66.4	+2.4	52.5	+0.4	40.2	+0.2	28.1	-2.2	50.1	+0.6
Charlotteburg .....	33.5	+6.1	25.9	+0.1	29.7	-6.2	48.0	+1.3	58.4	+0.7	67.2	+2.0	69.7	-0.4	71.4	+3.6	66.3	+4.3	52.2	+1.2	41.4	+1.4	30.1	+0.2	49.5	+1.2
Dover .....	32.5	+6.1	26.0	-1.3	29.6	-4.5	48.4	+1.1	58.6	-0.2	68.5	+1.1	70.4	-1.3	71.8	+2.2	64.8	+2.0	50.2	-0.9	39.8	-0.8	27.7	-2.9	49.0	0.0
Belvidere .....	34.8	+8.2	27.8	+0.9	32.8	-4.3	51.9	+2.5	62.0	+0.9	70.6	+3.2	73.6	+0.3	74.2	+2.7	68.0	+2.5	54.3	+1.0	41.6	+0.9	30.2	-0.4	51.8	+1.5
Phillipsburg .....	31.8	+7.9	28.8	+0.6	32.9	-3.4	51.4	+2.0	62.2	+1.2	71.4	+1.3	74.1	-0.3	75.2	+3.6	69.1	+4.1	53.8	+1.1	41.8	+0.2	30.2	-1.1	52.1	+1.4
<b>THE RED SAND STONE PLAIN.</b>																										
River Vale .....	34.0	+5.8	27.0	-0.4	32.2	-5.2	48.4	+0.5	58.9	-0.5	68.6	+0.8	72.2	-0.3	73.5	+3.0	69.5	+3.1	55.8	+1.3	44.8	+1.6	29.6	-1.0	53.9	+1.9
Paterston .....	36.8	+8.2	32.0	+1.5	35.0	-3.3	53.5	+2.8	63.3	+1.6	72.4	+2.1	74.6	+0.1	75.6	+3.4	69.5	+1.8	53.8	+0.1	43.2	+0.1	30.8	-1.0	51.6	+0.9
Englewood .....	34.1	+6.0	29.2	-0.7	33.6	-3.7	51.0	+2.7	60.4	-0.1	69.4	+1.5	73.2	0.0	74.1	+2.2	66.8	+2.9	53.6	-0.8	42.6	+1.1	31.2	-0.8	51.7	+1.0
South Orange .....	37.1	+8.4	29.4	-0.4	33.4	-2.7	50.8	+2.7	60.4	0.0	69.4	+2.2	72.6	-0.4	73.4	+2.3	66.8	+2.9	53.6	-0.8	42.6	+1.1	31.2	-0.8	51.7	+1.0
Newark .....	36.1	+7.0	31.1	+0.5	33.3	-4.2	52.1	+2.5	62.4	+1.3	71.0	+1.2	74.3	-0.1	75.0	+2.5	69.3	+3.4	55.0	+0.9	44.2	+0.8	32.0	-1.6	53.0	+1.2
New York, N. Y. ....	37.3	+6.4	31.2	+0.4	34.9	-2.7	51.7	+3.0	61.8	+1.9	71.5	+2.5	74.8	+0.9	75.3	+2.6	70.2	+3.8	56.1	+0.6	44.9	+1.1	32.7	-1.3	53.5	+1.6
Jersey City .....	37.2	.....	31.4	.....	35.0	.....	52.0	.....	62.7	.....	72.3	.....	75.3	.....	75.0	.....	70.4	.....	56.0	.....	44.6	.....	32.8	.....	53.8	.....
Bayonne .....	36.4	+6.5	31.1	+1.3	34.1	-5.1	51.2	+1.3	61.5	+0.2	70.7	+0.7	73.8	-1.1	75.1	+1.1	69.1	+1.3	55.0	-1.0	43.8	+0.1	32.6	-1.1	52.9	+0.4
Bergen Point .....	35.8	+4.0	30.6	-0.1	34.0	-3.2	51.3	+1.9	61.0	-0.3	70.6	+1.6	73.8	-0.7	74.8	+2.6	69.0	+2.5	55.4	-0.7	44.4	+0.9	32.2	-0.2	52.7	+0.5
Elizabeth .....	36.8	+7.0	32.2	+0.8	35.2	-2.1	53.9	+3.2	64.1	+1.8	73.4	+2.3	76.0	+0.5	75.4	+1.8	70.0	+3.1	55.0	+0.2	44.7	+1.3	33.6	+0.3	54.2	+1.7
Plainfield .....	35.6	+6.6	29.6	+0.7	33.7	-4.7	51.2	+1.8	61.0	+0.3	70.3	+1.0	73.4	-1.1	74.3	+1.6	68.0	+2.2	54.0	0.0	42.5	+0.5	31.3	-1.1	52.1	+0.6
Somerville .....	35.0	+7.1	30.3	-0.2	33.8	-4.7	51.4	+2.3	61.9	-1.0	71.3	+1.5	74.0	-0.2	75.6	+3.0	69.2	+3.0	54.8	+0.9	42.9	+0.6	31.9	-0.4	52.7	+1.2
Flemington .....	35.5	+6.0	30.6	-3.7	34.0	-6.5	51.9	+2.1	62.2	+0.7	71.2	+1.4	73.9	-1.3	75.0	+2.4	69.1	+2.7	54.6	-1.2	43.0	+0.7	31.8	-0.8	52.7	+1.0
New Brunswick .....	37.2	+6.8	32.2	-0.1	35.2	-3.2	.....	.....	.....	.....	.....	.....	73.5	-0.8	74.4	+1.9	69.0	+3.1	53.7	-1.1	43.0	-0.7	32.7	.....	.....	.....
College Farm .....	35.9	+5.7	30.4	+1.5	33.6	-7.1	51.6	+1.6	61.6	-0.3	70.8	+1.8	73.3	-1.6	74.4	+2.0	68.6	+2.3	54.0	-1.4	43.0	-0.6	32.2	+0.2	52.4	+0.3
Lambertville .....	36.7	+7.0	31.4	+0.5	35.2	-2.9	52.7	+2.3	62.8	+0.9	72.3	+1.9	74.8	+0.3	75.8	+3.2	69.6	+3.7	55.2	+1.2	43.4	+0.6	33.7	+0.5	53.6	+1.6
<b>THE SOUTHERN INTERIOR.</b>																										
Hightstown .....	.....	.....	.....	.....	.....	.....	50.0	.....	60.6	-1.5	68.8	.....	72.2	-2.8	74.2	+1.6	67.8	+1.1	53.5	-1.4	43.0	-0.6	32.8	-0.2	.....	.....
Trenton .....	39.8	.....	33.4	.....	37.4	.....	53.4	+0.9	62.6	-0.5	72.2	+0.6	74.4	-2.7	75.4	+0.6	69.5	+1.1	55.8	-1.7	45.8	-0.6	35.8	-1.3	54.6	.....
Imlaystown .....	41.0	+9.3	.....	.....	38.4	-0.6	53.5	+2.9	.....	.....	71.6	+0.6	73.6	-1.6	75.4	+2.1	69.4	+2.8	55.2	+0.1	43.8	-0.7	33.3	-1.6	.....	.....
Lakewood .....	37.6	.....	32.4	.....	34.6	.....	51.6	.....	62.4	.....	70.2	.....	71.8	-1.4	74.2	+4.3	68.6	+3.4	54.9	-0.3	44.8	+1.9	35.6	+2.7	53.2	.....
Beverly .....	37.3	+6.4	32.5	+0.7	36.0	-3.1	52.9	+1.7	63.4	+1.1	72.6	+1.7	75.0	-0.3	76.0	+2.7	69.9	+3.0	54.3	-0.5	43.8	-0.2	33.2	-0.9	53.9	+1.0
Brown's Mills .....	37.2	.....	.....	.....	.....	.....	52.6	.....	61.9	.....	71.6	.....	72.8	.....	75.0	.....	68.4	.....	56.0	.....	43.6	.....	35.8	.....	.....	.....
Moorestown .....	37.2	+7.0	32.2	+0.3	35.4	-2.7	52.4	+2.5	62.1	+0.9	71.5	+1.1	73.8	-1.1	75.2	+2.6	69.2	+3.4	55.1	+0.8	44.2	+1.4	34.2	+1.0	53.5	+1.4
Philadelphia, Pa. ....	39.4	+7.2	33.6	+0.3	36.7	-3.3	55.5	+4.1	64.0	+1.5	73.2	+1.5	75.6	-1.0	76.2	+1.6	71.2	+3.2	56.2	-0.4	47.2	+2.4	35.3	-0.3	55.3	+1.4
Toms River .....	37.5	+6.9	32.1	+2.4	35.0	-4.4	51.4	+2.1	61.8	+1.6	71.6	+2.9	.....	.....	75.2	+2.6	69.0	+2.5	54.5	-0.6	43.8	0.0	34.7	0.0	.....	.....
Indian Mills .....	38.0	.....	33.3	.....	36.6	.....	53.2	.....	63.6	+0.6	72.4	+3.3	74.4	-1.3	76.2	+3.6	70.0	+3.1	55.8	-0.2	44.6	+1.4	36.5	+3.6	54.6	.....
Clayton .....	38.4	+6.6	33.2	+3.5	36.5	-5.8	52.8	+2.6	62.6	+0.7	71.8	+2.1	73.6	-1.8	75.7	+2.3	70.1	+2.9	56.0	-1.0	44.6	+0.7	35.0	+1.3	54.2	+1.2
Tuckerton .....	36.3	+5.3	31.8	+1.9	36.4	-4.7	51.3	+3.0	61.4	+1.3	71.0	+2.2	72.7	-2.1	76.4	+3.6	69.2	+3.0	55.6	-0.6	44.2	+0.2	35.9	-2.6	53.5	+1.3
Friesburg .....	38.2	+4.4	32.8	-3.3	36.6	-6.1	52.7	+2.6	63.2	+1.2	72.6	+2.6	74.6	-1.3	76.4	+2.8	70.5	+3.1	55.8	-1.2	44.8	+0.5	36.1	+2.5	54.5	+1.2
Vineland .....	38.0	+6.4	33.1	-0.2	36.7	-2.8	52.8	+2.2	62.9	+0.7	72.4	+0.4	74.2	-2.3	75.6	+1.8	70.2	+3.3	55.6	-0.1	44.3	+0.4	35.4	+0.9	54.3	+0.9
Bridgeton .....	39.3	+4.9	34.3	-0.6	38.5	-3.4	55.0	+2.4	64.9	+0.3	73.8	+0.5	75.4	-1.9	77.3	+1.7	70.9	+2.2	57.2	+0.3	45.6	-0.3	36.4	-0.4	55.7	+0.5
Woodbine .....	38.8	+7.0	33.1	+2.1	37.8	-3.4	52.0	+2.1	62.6	+1.9	71.2	+2.4	72.6	-1.2	75.1	+2.6	70.1	+3.4	56.4	+0.3	44.7	+0.4	36.6	+1.5	54.2	+1.6
Cape May C. H. ....	39.8	+4.7	33.8	-0.3	38.6	-2.6	53.2	+2.8	62.6	+1.9	70.8	+1.0	73.0	-1.1	75.8	+2.4	70.2	+2.4	56.7	0.0	45.8	-0.8	36.9	-0.7	54.8	+0.8
<b>THE SEA COAST.</b>																										
Sandy Hook .....	36.7	.....	31.4	.....	33.8	.....	50.2	.....	60.4	.....	70.6	.....	73.2	.....	75.0	.....	71.4	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oceanic .....	36.9	+4.2	32.2	-0.2	35.4	-3.9	51.8	+0.8	61.0	-0.2	69.8	-0.1	72.2	-2.4	73.7	+0.5	69.5	+2.0	56.8	+1.4	44.8	-0.2	35.0	-0.8	53.3	+0.1
Asbury Park .....	37.4	+5.2	31.7	-0.1	35.4	-3.6	50.9	+1.8	59.3	-0.1	69.4	+0.8	71.4	-1.4	74.8	+2.6	71.1	+4.0	56.1	+0.5	45.1	+0.5	35.0	-0.3	53.1	+0.8
Atlantic City .....	38.4	+5.8	32.7	-0.2	37.0	-1.5	50.4	+3.1	59.0	+1.4	68.8	+2.1	71.4	-0.7	75.6	+3.5	70.6	+3.6	56.8	+0.2	45.4	+0.3	36.2	+0.1	53.5	+1.5
Cape May City .....	39.0	+4.6	33.4	-2.3	37.6	-1.9	51.4	+3.2	59.8	+0.3	68.5	+0.3	72.0	-1.6	75.7	+2.5	70.4	+2.3	57.7	-1.2	46.6	0.0	37.2	-0.7	54.1	+0.5



## Monthly maximum temperatures for the year 1906, with dates

	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
Stations.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.
THE HIGHLANDS & KIT-PATINNY VALLEY.																								
Layton .....	65	24	54	24	49	29	76	*19	89	18	84	30	80	31	92	6	90	19	79	6	69	3	47	*1
Sussex .....	67	23	55	25	54	28	77	*19	92	18	88	*29	86	*2	90	*5	88	*10	74	5	60	3	47	*1
Newton .....	66	23	56	24	50	8	78	*19	91	13	91	28	90	31	93	*5	92	19	75	5	59	*3	48	*1
Charlotteburg .....	67	21	54	24	53	4	75	*19	90	18	86	*28	89	1	89	5	89	10	71	*5	60	*3	52	*1
Dover .....	64	23	51	24	52	*3	74	*19	90	18	90	30	86	*18	93	6	92	19	72	23	59	*3	50	*6
Belvidere .....	68	23	55	24	56	4	81	30	94	18	92	30	88	*10	93	6	91	*10	77	5	65	3	48	*1
Phillipsburg .....	67	23	55	24	56	4	79	30	93	18	93	30	91	22	94	*5	91	19	76	*5	61	3	52	6
THE RED SAND STONE PLAIN.																								
River Vale .....	66	23	53	24	53	4	75	*21	90	18	90	30	89	17	92	*5	92	10	77	9	67	3	59	6
Paterson .....	65	23	55	*20	56	28	80	30	94	18	94	30	91	17	96	6	94	*10	77	9	67	3	56	15
Englewood .....	61	23	56	21	54	4	76	30	89	18	91	30	89	17	93	6	88	10	73	19	64	3	54	*6
South Orange .....	67	23	52	21	60	3	76	30	88	18	90	30	89	17	91	6	87	*10	72	9	64	18	56	15
Newark .....	66	23	57	24	55	4	78	*27	91	18	91	30	90	*1	94	*5	92	19	76	*5	66	18	57	15
New York, N. Y. ....	63	23	59	21	55	27	74	30	86	18	93	30	89	10	93	6	90	10	74	9	64	18	57	15
Jersey City .....	61	*4	55	21	55	27	77	30	90	*18	95	30	90	10	96	6	93	10	77	9	62	*3	57	6
Bayonne .....	67	22	61	21	55	4	78	30	90	18	92	30	89	17	94	6	94	10	78	9	68	18	57	*15
Bergen Point .....	67	23	61	21	56	27	78	30	88	18	91	30	88	17	92	*5	91	10	77	9	68	18	57	*6
Elizabeth .....	67	23	56	21	54	28	81	21	91	18	96	30	94	16	95	6	91	10	75	9	66	18	56	15
Plainfield .....	70	23	54	24	55	*3	78	30	90	18	93	29	89	17	94	6	91	*10	75	9	67	18	56	*15
Somerville .....	66	*23	55	24	56	4	81	30	93	18	94	30	90	10	96	6	94	19	76	9	67	18	57	15
Flemington .....	70	23	59	24	56	4	81	30	94	18	95	30	91	11	96	6	93	19	78	5	62	*18	58	15
New Brunswick .....	69	23	60	24	57	4	80	30	90	18	92	30	91	22	94	6	91	*10	75	9	65	18	60	16
College Farm .....	71	23	60	21	57	4	80	30	90	18	92	30	91	1	93	*6	92	19	75	9	68	18	60	15
Lambertville .....	70	*22	58	24	57	29	82	30	92	18	94	30	90	*1	94	6	90	19	74	*5	65	18	60	15
THE SOUTHERN INTERIOR.																								
Hightstown .....	72	*22	60	*21	56	*3	77	30	90	18	92	30	89	*17	92	5	90	19	75	9	68	18	64	15
Trenton .....	72	*22	60	*21	58	*3	80	19	88	18	94	30	90	17	92	6	88	10	73	19	67	18	63	15
Imlaystown .....	72	23	62	21	62	4	82	30	92	18	92	30	89	3	94	6	91	10	77	9	68	18	66	15
Lakewood .....	70	22	62	21	60	27	82	30	91	18	91	30	87	17	91	6	89	19	75	9	67	18	67	15
Beverly .....	72	*22	61	24	57	*3	82	30	93	18	94	30	91	*20	94	6	91	10	76	9	67	18	63	15
Brown's Mills .....	73	22	61	21	58	3	83	30	94	19	95	30	92	3	93	6	91	19	75	9	67	18	67	15
Moorestown .....	72	23	61	21	58	3	81	30	90	18	92	30	90	3	92	6	89	10	75	*3	68	18	65	15
Philadelphia, Pa. ....	71	23	61	21	58	3	84	30	93	18	96	30	89	2	94	6	91	10	75	5	67	18	62	15
Toms River .....	73	22	61	21	61	27	85	30	91	18	95	30	90	3	94	6	93	19	77	9	70	19	70	15
Indian Mills .....	74	22	62	*21	57	*4	85	30	94	18	97	30	93	3	97	6	93	19	75	9	69	18	70	15
Clayton .....	74	22	64	24	58	27	83	30	91	18	93	30	89	2	91	6	90	*10	77	*9	68	18	62	15
Tuckerton .....	63	22	54	25	57	28	79	21	92	19	98	30	93	*3	96	6	91	10	75	*9	67	19	57	15
Friesburg .....	70	*21	60	21	58	27	86	30	93	18	95	30	91	*2	96	6	91	10	77	*5	66	*18	68	15
Vineland .....	71	22	62	24	58	3	86	30	93	18	96	28	92	*2	94	6	91	*10	75	*5	67	18	67	15
Bridgeton .....	74	23	62	21	58	26	87	*27	93	18	97	*29	94	21	96	6	92	21	80	5	66	*18	68	15
Woodbine .....	67	21	58	*14	57	27	82	30	92	19	95	*29	90	*21	91	*6	91	10	76	*6	68	22	65	15
Cape May C. H. ....	66	21	55	*20	58	27	80	*20	89	19	92	30	88	*3	91	6	88	10	76	5	64	*19	64	15
THE SEA COAST.																								
Sandy Hook .....	65	23	60	21	58	27	73	18	88	18	90	30	88	17	94	6	91	19	74	5	62	*19	54	*6
Oceanic .....	64	*21	63	21	62	27	76	21	86	*18	91	30	87	17	91	6	88	19	80	9	68	18	65	15
Asbury Park .....	60	21	51	22	56	*27	76	*21	89	19	94	30	94	1	94	6	89	19	70	*9	64	10	61	16
Atlantic City .....	53	31	52	19	54	*27	78	21	91	19	96	30	82	21	88	6	91	10	72	5	63	19	54	31
Cape May City .....	58	4	50	21	54	*3	77	27	86	19	88	*29	85	21	86	6	87	10	74	5	62	*19	54	*6

\* Occurred on more than one date.

## Monthly minimum temperatures for the year 1906, with dates.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.
THE HIGHLANDS & KIT-TATINNY VALLEY.																								
Layton .....	- 5	9	-12	11	-15	24	17	* 2	24	11	38	12	46	7	43	16	33	25	11	13	8	17	- 5	19
Sussex .....	- 1	10	- 4	6	- 7	25	23	3	29	11	43	12	50	7	48	16	40	25	24	13	20	30	1	19
Newton .....	- 3	10	- 4	* 6	- 5	25	23	3	30	11	44	12	47	7	45	16	36	25	22	13	17	*17	- 2	19
Charlotteburg .....	2	10	- 5	6	- 7	25	20	2	30	11	40	14	46	8	42	16	34	*25	19	13	19	9	2	19
Dover .....	5	10	- 1	6	5	*24	23	2	31	11	44	*12	48	7	46	16	37	25	23	13	23	* 5	2	19
Belvidere ..	3	11	- 1	6	3	24	23	3	31	11	43	13	52	7	52	16	40	25	27	*13	17	17	5	19
Phillipsburg .....	7	* 9	- 1	6	8	24	28	3	35	11	47	12	53	7	54	16	43	25	27	13	23	*17	6	19
THE RED SAND STONE PLAIN.																								
River Vale .....	- 2	11	- 7	11	- 2	24	19	3	25	11	40	14	50	7	47	16	40	2	.....	.....	.....	.....	0	19
Paterson .....	12	* 9	4	6	11	24	28	3	34	11	49	12	55	7	56	16	44	25	31	13	27	30	10	24
Englewood .....	6	* 9	2	6	10	24	28	* 1	34	11	48	13	54	7	54	16	45	26	30	*12	24	30	6	24
South Orange .....	8	10	1	6	12	24	30	* 1	36	11	49	*12	56	7	53	16	46	*25	31	13	25	30	7	24
Newark .....	9	9	1	6	9	24	29	3	39	*10	48	12	55	7	55	16	45	25	30	13	26	30	6	24
New York, N. Y. ....	13	10	5	6	16	24	31	1	40	11	52	12	61	7	63	25	54	16	37	12	27	29	8	24
Jersey City .....	11	* 9	4	6	13	24	29	1	38	11	53	12	56	7	59	16	50	*25	35	*12	27	30	8	24
Bayonne .....	11	* 9	3	6	11	24	29	* 1	38	11	51	12	54	7	58	16	46	25	32	13	26	30	8	24
Bergen Point .....	9	* 9	2	6	11	24	29	3	34	11	51	13	56	7	58	16	48	25	33	12	26	30	8	24
Elizabeth .....	10	9	2	6	15	24	30	1	35	11	52	*12	59	7	57	16	49	*25	32	13	26	30	7	24
Plainfield .....	5	10	1	6	11	24	27	* 1	30	11	48	13	54	7	55	16	44	25	28	13	23	30	6	24
Somerville .....	3	10	3	6	10	24	23	3	28	11	46	13	52	7	55	16	42	26	28	13	22	17	7	24
Flemington .....	2	10	2	6	8	24	26	2	34	11	48	13	53	10	54	16	44	26	29	13	24	*17	7	24
New Brunswick .....	7	10	3	6	11	24	.....	.....	.....	.....	.....	.....	53	7	54	16	44	25	25	13	23	*15	9	* 4
College Farm .....	2	10	- 1	6	7	24	25	* 2	32	11	47	13	52	7	55	16	44	*25	27	*13	23	30	4	24
Lambertville .....	6	10	3	6	9	24	25	* 2	35	11	49	*12	52	7	59	16	42	25	27	13	24	17	9	24
THE SOUTHERN IN-TERIOR.																								
Hightstown .....	.....	.....	.....	.....	10	24	27	* 1	31	11	43	13	50	7	59	16	44	26	28	13	23	30	6	24
Trenton .....	10	* 9	6	* 3	12	24	28	1	36	10	50	13	54	7	62	*16	48	*25	30	13	25	30	7	24
Imlaystown .....	6	10	3	6	13	24	27	1	.....	.....	50	13	54	7	60	*15	43	25	29	13	23	30	7	24
Lakewood .....	5	10	4	6	10	1	26	* 1	36	11	47	13	55	7	60	16	46	26	30	30	23	30	9	25
Beverly .....	4	10	4	6	13	24	27	1	35	11	50	13	55	7	62	15	46	25	30	13	23	30	9	*24
Brown's Mills .....	2	10	.....	.....	.....	22	1	30	11	44	13	52	7	56	15	45	* 2	26	13	18	30	8	24	
Moorestown .....	5	10	4	6	13	24	26	1	35	11	48	13	53	7	62	*14	45	25	29	13	22	30	8	24
Philadelphia, Pa. ....	15	9	8	6	16	24	32	1	40	10	55	12	60	7	63	25	51	25	36	31	32	30	11	24
Toms River .....	2	10	3	* 3	14	1	23	3	31	11	46	13	.....	.....	59	*15	40	26	25	13	20	30	6	24
Indian Mills .....	0	10	5	* 3	14	24	24	1	35	11	48	13	53	7	60	15	45	*25	26	13	19	30	9	24
Clayton .....	5	10	5	6	16	24	27	1	35	11	50	13	54	7	62	16	47	25	31	*12	23	30	10	24
Tuckerton .....	- 2	10	2	3	14	18	22	3	35	10	48	13	55	27	64	15	44	25	28	30	21	30	8	*24
Friesburg .....	4	10	6	6	12	24	25	1	34	11	50	13	54	* 7	62	15	48	* 6	28	12	22	30	10	24
Vineland .....	1	10	5	* 3	16	24	25	* 1	34	11	49	13	53	7	62	*15	46	25	27	12	20	30	10	*24
Bridgeton .....	6	10	7	6	17	24	26	1	36	*10	50	13	55	7	63	15	47	25	29	12	22	30	10	*24
Woodbine .....	3	10	5	3	16	* 1	24	1	32	11	51	12	54	8	62	*15	45	25	27	12	17	30	10	25
Cape May C. H. ....	13	9	8	6	19	24	25	3	39	11	53	*12	57	8	65	*14	47	25	33	*13	22	30	11	24
THE SEA COAST.																								
Sandy Hook .....	13	9	7	3	14	1	30	1	41	11	55	12	60	* 7	64	*24	58	*16	.....	.....	.....	.....	.....	.....
Oceanic .....	9	10	5	3	16	* 1	29	* 1	37	11	50	13	59	7	59	16	52	* 2	34	*12	28	*15	10	24
Asbury Park .....	8	10	5	3	15	* 1	28	1	37	10	51	13	61	* 7	63	14	56	6	34	12	24	30	8	24
Atlantic City .....	13	10	8	6	17	24	28	1	37	10	56	8	61	8	66	24	56	6	33	12	26	30	10	24
Cape May City .....	15	10	9	6	20	24	31	* 1	43	10	54	12	59	7	67	29	50	25	37	31	32	30	13	24

\* Occurred on more than one date.



## Monthly and Annual precipitation for the year 1906, with departures from the normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.
THE HIGHLANDS & KITTATINNY VALLEY.																										
Layton .....	2.19	-0.88	3.08	+0.87	4.41	+0.35	1.31	+1.24	4.35	+1.94	3.30	-1.33	5.04	+0.72	5.03	+0.68	1.62	-2.71	3.12	-0.70	2.39	+0.63	4.14	-0.75	43.77	-0.66
Saxson .....	2.58	-0.10	2.75	-0.94	4.87	-0.86	4.83	+1.78	5.43	+1.66	2.92	-1.33	6.11	-0.74	4.16	-0.43	2.31	-1.76	2.71	-0.95	1.37	-1.42	3.61	-0.09	43.65	-1.00
Newton .....	2.74	-0.73	2.83	-0.71	5.18	-1.86	4.74	+1.76	5.97	+1.83	4.16	+0.27	5.73	-0.80	5.51	+1.04	2.51	-1.27	3.44	-0.38	2.10	-0.87	3.71	-0.68	48.62	-0.92
Charlotteburg .....	2.05	-0.70	2.17	-2.97	4.11	-0.48	4.37	+0.36	5.79	+1.57	5.47	+1.42	7.51	+2.49	4.04	-1.03	2.57	-2.37	4.58	-0.37	1.53	-1.79	5.03	+0.52	49.82	-2.55
Pompton Plains .....	2.09	.....	2.42	.....	5.60	.....	4.75	.....	4.25	.....	9.18	.....	7.07	.....	3.43	.....	3.52	.....	3.39	.....	1.79	.....	2.88	.....	50.97	.....
Dover .....	2.90	-1.61	2.25	-1.93	4.73	+0.91	4.66	+1.34	4.55	+0.32	5.55	+1.54	7.58	+1.88	2.84	-2.46	1.88	-2.26	4.61	+0.70	1.51	-2.39	5.59	+1.61	48.65	-2.35
Belvidere .....	2.31	-0.67	3.54	-0.69	5.32	+1.49	4.66	+1.69	3.86	-0.24	4.41	+0.60	3.97	-1.50	2.36	-2.78	2.54	-1.25	6.59	+2.93	1.98	-1.29	5.28	-1.33	46.82	-0.32
Phillipsburg .....	2.78	-0.81	3.03	-0.46	5.34	+1.96	3.84	+0.76	4.43	+0.26	4.38	+0.65	4.00	-0.89	4.09	-0.75	2.36	-1.11	5.47	+2.11	1.44	-1.89	4.98	+1.24	46.14	0.77
THE RED SAND STONE PLAIN.																										
Mahwah .....	2.17	.....	2.28	.....	4.78	.....	4.89	.....	5.13	.....	4.20	.....	7.41	.....	4.71	.....	3.75	.....	2.66	.....	1.69	.....	2.70	.....	46.37	.....
River Vale .....	2.04	-1.72	1.90	-3.20	.....	.....	2.96	-0.54	4.29	-0.25	3.43	-0.29	6.86	+2.32	6.54	+2.05	4.11	+0.21	.....	.....	.....	.....	5.43	+1.45	.....	.....
Paterson .....	2.67	-1.67	3.49	-1.14	5.91	+1.34	5.49	+2.10	3.73	-0.72	3.23	-0.98	5.74	+0.26	4.62	-0.38	1.82	-2.71	4.61	+0.48	1.31	-1.86	4.83	+0.94	47.45	-4.34
Englewood .....	3.02	-1.02	2.76	-3.37	5.19	+0.63	6.42	+3.46	4.74	+0.93	2.04	-1.98	3.44	-2.88	4.04	-0.98	2.57	-1.11	4.72	+0.87	1.71	-1.53	3.85	-0.72	44.50	-7.70
Little Falls .....	2.64	.....	3.12	.....	5.12	.....	5.35	.....	3.77	.....	3.62	.....	6.77	.....	3.20	.....	2.29	.....	3.84	.....	1.43	.....	3.10	.....	44.25	.....
South Orange .....	2.68	-1.48	2.16	-1.98	3.70	-0.24	5.29	+2.00	4.22	+0.73	4.07	+0.50	4.62	-0.81	3.90	-1.15	4.22	+0.18	4.52	+0.81	1.06	-2.43	4.74	+0.93	45.18	-2.94
Chatham .....	2.86	.....	2.02	.....	4.97	.....	5.27	.....	3.93	.....	3.68	.....	5.94	.....	5.14	.....	1.66	.....	3.32	.....	1.75	.....	3.97	.....	44.51	.....
Newark .....	2.36	-1.47	1.91	-1.74	4.98	-1.07	5.68	+2.10	4.77	+0.80	2.63	-0.99	3.71	-1.08	2.46	-2.78	3.54	-0.28	4.23	+0.43	1.37	-2.23	6.18	+2.43	43.82	-3.74
New York, N. Y. ....	2.98	-1.06	2.57	-1.21	5.58	-1.49	5.78	+2.43	4.67	+1.52	1.70	-1.55	3.21	-1.26	3.68	-0.91	2.54	-1.03	4.30	+0.60	1.28	-2.18	3.53	+0.13	41.82	-3.03
Jersey City .....	3.36	.....	2.83	.....	6.07	.....	5.83	.....	4.48	.....	1.45	.....	4.41	.....	2.54	.....	2.81	.....	4.16	.....	1.40	.....	4.13	.....	43.47	.....
Bayonne .....	3.28	+0.10	2.10	-2.07	5.18	+1.02	5.21	+1.96	4.99	+1.75	2.13	-1.59	4.70	-0.70	2.52	-2.62	3.07	-0.40	4.62	+0.80	1.27	-2.12	3.59	+0.10	42.66	-3.77
Bergen Point .....	3.59	-0.65	2.10	-2.74	5.09	-0.12	5.91	+1.89	5.24	+1.73	2.48	-1.51	4.28	-1.32	2.21	-3.51	3.00	-1.46	4.76	-0.68	1.31	-1.89	4.03	+0.35	44.63	-9.67
Elizabeth .....	2.90	-1.43	2.10	-2.31	3.78	-0.36	4.00	+0.53	4.87	+1.07	3.27	-0.42	3.57	-2.13	2.59	-2.05	2.12	-2.11	4.51	+0.50	1.28	-2.27	4.38	-0.66	39.40	-10.32
Plainfield .....	2.77	-0.98	2.37	-1.99	5.07	+0.65	4.52	+0.50	5.51	+1.46	5.10	+1.14	5.99	-0.11	3.54	-1.67	2.82	-2.07	4.72	+0.54	1.26	-2.28	4.16	+0.33	47.83	-4.48
Somerville .....	2.90	-0.86	2.33	-1.66	3.96	-0.15	4.34	+1.09	5.01	+0.95	4.57	+0.58	5.98	+0.92	4.12	-0.81	2.33	-1.56	4.94	+1.50	1.65	-1.48	4.26	+0.45	46.39	-0.64
Flemington .....	3.86	+0.26	2.12	-1.60	3.96	-0.50	3.30	-0.17	3.95	+0.48	3.22	-0.58	6.28	+0.81	3.34	-2.07	2.79	-1.63	5.48	+1.53	1.30	-1.42	4.47	+0.64	44.07	-4.25
New Brunswick .....	3.17	-0.65	2.12	-1.52	6.77	-2.98	.....	.....	4.37	+0.51	1.37	+0.51	6.05	-0.98	3.33	-1.68	3.05	-0.77	3.08	-0.54	1.62	-2.10	4.25	+0.54	.....	.....
College Farm .....	3.04	-0.14	2.01	-2.01	4.28	-0.16	4.38	+0.93	4.75	+1.03	3.20	-0.13	6.10	-0.32	3.95	-1.80	1.93	-2.04	3.02	-1.09	1.50	-1.80	3.71	-0.03	41.90	-7.24
Lambertville .....	3.00	-1.06	2.62	-0.69	5.42	-1.39	3.38	+0.03	3.78	-0.54	6.07	+1.77	6.10	+0.83	4.44	-0.18	1.14	-3.39	5.00	+1.24	1.75	-1.59	4.22	+0.71	46.92	-1.48
THE SOUTHERN INTERIOR.																										
Hightstown .....	.....	.....	.....	.....	.....	.....	4.07	+0.29	3.90	-0.71	5.72	+2.52	6.38	+0.86	8.02	+3.78	1.07	-2.64	3.54	-0.54	1.25	-2.75	3.70	+0.12	.....	.....
Frenton .....	3.59	+0.04	2.26	-1.34	4.42	-0.07	3.84	+0.23	5.08	+1.16	4.82	+1.03	5.55	-0.67	6.44	+0.87	0.89	-3.11	3.56	-0.29	1.57	-2.32	4.89	+1.42	46.91	-2.31
Fullerstown .....	2.20	-1.43	1.94	-2.08	5.25	+0.94	2.67	-0.50	4.37	+0.22	5.48	+1.73	7.74	-2.72	8.11	+3.60	1.27	-3.39	4.65	+0.45	1.30	-2.23	3.29	-0.14	48.27	-0.11
Lakewood .....	3.05	.....	2.14	.....	4.42	.....	3.18	.....	3.55	.....	6.03	.....	6.28	-0.98	8.74	+2.11	0.86	-2.61	1.81	+0.72	1.30	-0.50	3.27	-2.06	47.63	.....
Beverly .....	3.34	-0.44	2.48	-1.45	5.59	+1.35	2.85	-0.50	3.56	-0.50	7.08	+3.44	6.92	+1.84	8.92	+3.92	2.52	-1.18	3.95	+0.11	1.56	-1.97	2.89	-0.72	51.66	+3.90
Rancocas .....	2.88	-0.68	2.06	-1.82	5.28	+1.28	3.20	+0.30	3.41	-0.84	8.18	+4.73	3.85	-1.60	10.23	+5.53	4.66	+0.60	4.54	+0.45	1.64	-1.97	3.45	-0.25	53.38	+5.64
Brown's Mills .....	2.33	.....	.....	.....	.....	.....	4.39	.....	4.39	.....	4.65	.....	6.23	.....	8.96	.....	2.68	.....	4.90	.....	1.56	.....	.....	.....	.....	.....
Moorestown .....	2.85	-0.95	2.06	-1.88	5.37	+1.73	2.71	-0.38	2.66	-1.52	7.33	+3.63	4.11	-0.51	9.43	+4.87	3.99	+0.31	4.20	+0.49	1.70	-1.77	3.34	-0.18	49.75	+3.84
Philadelphia, Pa. ....	3.16	-0.11	2.47	-0.87	5.59	+2.11	3.17	+0.25	4.43	+1.28	8.04	+4.76	5.33	+1.14	9.56	+4.79	0.36	-2.97	4.97	+1.87	1.72	-1.37	3.07	+0.10	51.87	+10.98
Toms River .....	2.48	-1.04	2.28	-2.75	5.43	-0.93	2.95	-0.71	3.91	-0.32	2.21	-1.68	.....	.....	17.91	(*)	2.91	-0.49	7.14	+2.97	1.69	-2.09	5.52	+1.63	67.68	+18.54
Indian Mills .....	3.13	.....	2.49	.....	5.79	.....	2.92	.....	3.35	.....	4.25	+0.04	4.60	+0.58	12.48	+6.40	0.92	-3.78	5.63	+1.45	1.99	-0.47	3.87	-1.53	51.22	.....
Layton .....	3.22	-0.02	2.45	-1.93	5.72	+2.13	2.94	-0.44	2.37	-0.53	3.60	+0.38	5.18	-0.18	11.58	+6.31	1.93	-1.79	4.26	+0.86	1.65	-1.49	4.20	+0.44	49.20	+4.10
Puckerton .....	2.90	-0.22	3.63	-0.12	5.80	-1.26	2.15	-1.67	2.86	-0.30	1.72	-2.59	4.59	+0.73	11.36	+5.47	2.07	-1.44	4.42	-0.13	2.09	-0.46	3.50	-1.41	47.09	-0.88
Friesburg .....	2.85	-0.15	2.58	-1.55	5.31	+2.01	2.73	-0.68	4.12	+0.74	5.88	-1.98	4.93	-0.42	7.59	+2.69	1.63	-2.32	4.56	+0.72	1.90	-1.02	3.93	+0.53	48.02	+3.37
Vineland .....	2.26	-2.15	2.62	-1.41	5.95	+1.66	2.45	-0.87	3.55	-0.15	4.54	+0.99	5.83	+1.20	12.51	+7.72	1.23	-2.56	4.71	+1.11	1.65	-1.81	3.35	-0.44	50.65	+3.29
Anton .....	2.45	.....	2.66	.....	5.21	.....	2.18	.....	6.28	.....	4.01	.....	10.27	.....	2.00	.....	3.43	.....	1.56	.....	.....	.....	3.59	.....	49.30	.....
Bridgeton .....	3.40	+0.03	3.30	-0.95	6.62	+1.99	2.31	-1.36	3.15	-0.99	5.13	+1.47	5.72	+0.79	7.38	+2.93	0.91	-2.61	3.80	-0.33	1.89	-1.19	4.01	+0.23	47.71	+0.01
Pleasantville .....	.....	.....	3.36	.....</																						

Chart Showing Observation and Forecast Display Stations.

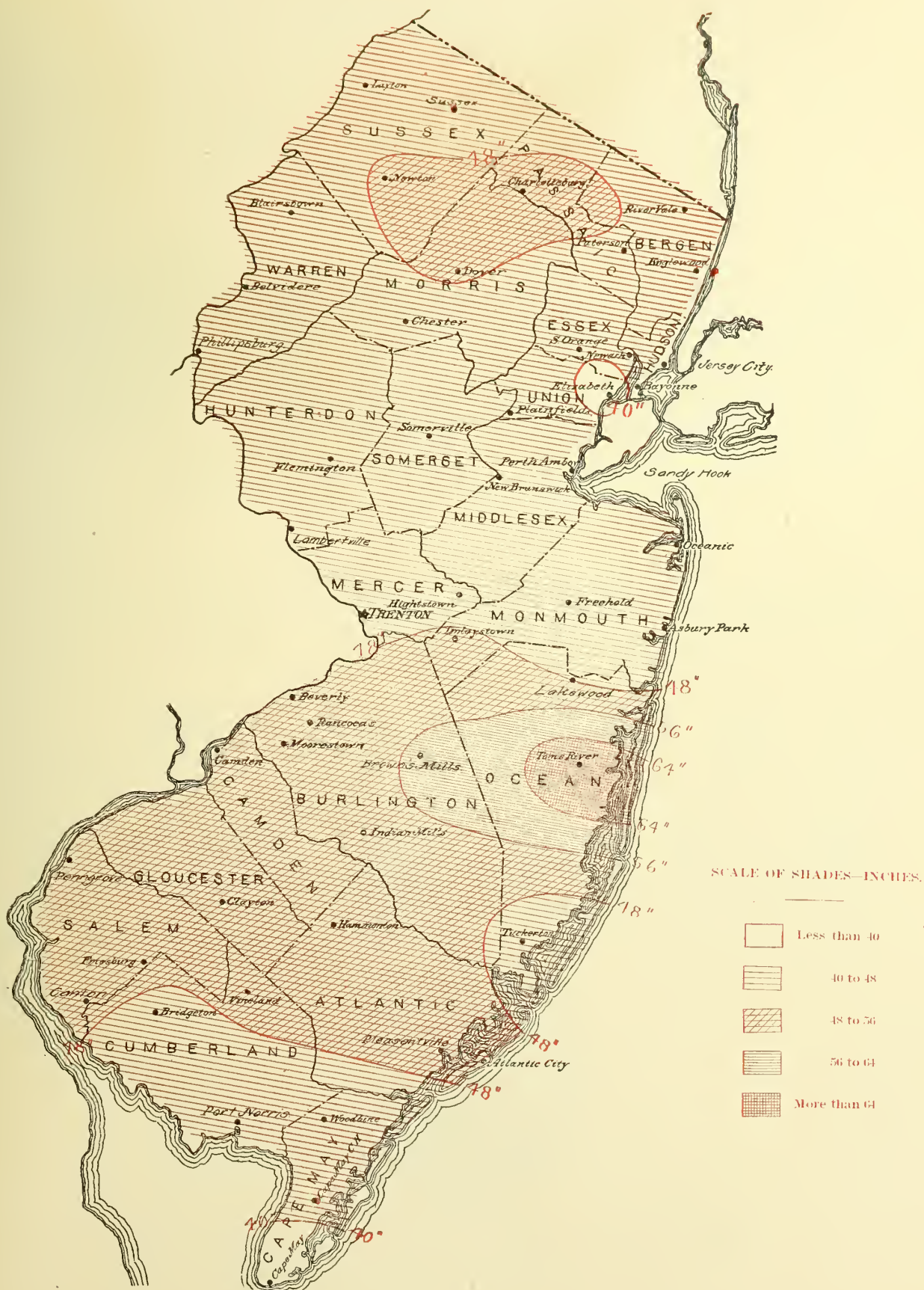


Key to Symbols

- Local Weather Bureau station.
- △ Cooperative Observation station
- Forecast Display station.
- ⊙ Cooperative Observation and Forecast Display station.



## Total Precipitation for the Year 1906.



## COOPERATIVE OBSERVERS.

Station.	Observer.	Station.	Observer.	Station.	Observer.
Asbury Park.....	B. H. Obert.	Hightstown .....	Ernst Wenger.	Paterson .....	Heber A. Probert.
Bayonne .....	John H. Eadie.	Imlaystown .....	F. C. Price	Phillipsburg .....	D. W. Smith.
Belvidere .....	Samuel J. Hixson.	Indian Mills .....	Jas. M. Armstrong.	Plainfield .....	John Neagle.
Bergen Point .....	W. H. Mitchell.	Jersey City .....	S. K. Pearson, Jr.	Pleasantville .....	L. Van Gilder.
Beverly .....	C. F. Richardson.	Layton .....	Warren C. Hursh.	River Vale.....	Abram C. Holdrum.
Bridgeton.....	Henry A. Jorden.	Lambertville .....	Wm. R. Bowne.	Rancocas .....	Spencer Haines.
Brown's Mills.....	F. J. Miller.	Lakewood.....	C. A. Roe.	Sandy Hook.....	Arthur E. Jewell.
Canton.....	John H. Maskell.	Moorestown .....	John C. Beans.	Somerville .....	Peter Hardcastle.
Cape May C. H.....	L. T. Garretson.	Newark .....	{ Prof. G. C. Sohn	South Orange.....	Wm. J. Chandler.
Charlotteburg .....	George S. Briggs.		{ and Wm. Wiener.	Sussex .....	W. H. Seeley.
Clayton .....	W. T. Farley.	New Brunswick ..	Miss J. A. Voorhees.	Toms River .....	{ W. C. Harris and
Dover .....	Wm. C. Harris.	(College Farm)..	{ Charles V. Meyers		{ F. G. Bunnell.
Elizabeth .....	W. M. Oliver.	New Brunswick ..	{ and Wm. T. Woerner.	Trenton .....	E. R. Cook.
Englewood .....	Wm. C. Tucker.			Tuckerton .....	F. R. Austin.
Flemington.....	H. E. Deats.	Newton .....	Brice Bowman.	Vineland .....	Alfred Chalmers.
Friesburg.....	H. C. Perry.	Oceanic .....	Rev. S. W. Knipe.	Woodbine .....	A. R. Merrill.

## FORECAST DISPLAY STATIONS AND DISTRIBUTING CENTERS.

Station.	Displayman.	Station.	Displayman.	Station.	Displayman.
Absecon .....	E. D. Riley.	Cape May Point...	U. S. L. S. Service.	Newton (15) .....	Z. H. Snyder.
Asbury Park.....	Postmaster.	Delaware (150)....	Postmaster.	Plainfield (100) ..	John Neagle.
Atlantic City (1,000)	Local Office, U. S.	Dover (33) .....	The Dover Index.	Port Monmouth ..	W. M. Seeley.
	Weather Bureau.	Jamesburg.....	J. L. Suydam.	Port Norris .....	J. H. Barraclough.
Bridgeton.....	H. A. Jorden.	Lambertville .....	Van Horn & Sons.	Tuckerton (60) .....	Postmaster.
Brown's Mills (200).	Farmer's Tel. Co.	Lebanon (228) .....	Lebanon Tel. Co.	Tuckahoe (60) .....	Postmaster.
Cape May City (100)	Local Office, U. S.	Newark (50) .....	Wm. Wiener.		
	Weather Bureau.	New Brunswick(200)	Postmaster.		

Figures in parenthesis indicate the number of forecasts distributed by mail or telephone from distributing center.



U. S. DEPARTMENT OF AGRICULTURE

REPORT FOR JANUARY, 1907.

NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

UNDER DIRECTION OF

WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.

WEATHER BUREAU OFFICE

FEBRUARY 18, 1907

# Monthly Mean Isotherms and Prevailing Winds, January, 1907





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XX. ATLANTIC CITY, N. J., JANUARY, 1907. No. 1.

## GENERAL SUMMARY.

The month averaged milder than usual, altho the mean temperature was much lower than that for the remarkably mild January of 1906. In portions of Bergen, Middlesex, Monmouth, and Morris counties the mean temperature was practically the normal; elsewhere the excess ranged from  $1^{\circ}$  to  $4.5^{\circ}$  per day, the greatest excess occurring in the extreme southern portion of Ocean County. The first 15 days of the month were exceptionally mild, unusually high maximum temperatures being reported on the 7th. The second half of the month was cold, particularly the period extending from the 23d to the 31st, inclusive. Minimum temperatures of zero, and below, occurred over a large part of the northern section on the 24th, 27th, and 31st. In the southern part of the State the minimum temperatures, ranging from  $-1^{\circ}$  to  $-5^{\circ}$ , were the lowest on the 24th.

The precipitation during January, altho of frequent occurrence, was slightly below the average. The most marked deficiency (more than 1 inch) occurred over portions of Sussex and Cumberland counties and thruout Cape May County, the actual precipitation over the northern half of the last-named County being a trifle less than 2 inches. The region of heaviest precipitation included parts of Bergen, Essex, and Passaic counties and the extreme eastern part of Morris County, where the monthly totals ranged from 4.90 inches to 5.80 inches and generally exceeded the average. After the 16th the principal part of the precipitation occurred as snow, the greatest depths being reported in the extreme north. During the fore part of the month the ground was uncovered and in some sections was not frozen. At the close of the month the ground was covered with depths varying from trace to about 5 inches. The greater part of the month was cloudy and stormy, the deficiency in sunshine being a marked feature of the weather.

## TEMPERATURE.

The monthly mean,  $31.8^{\circ}$ , was  $1.8^{\circ}$  above the normal, and  $4.7^{\circ}$  below the mean for the corresponding month of 1906.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $27.6^{\circ}$ ; Red Sand Stone Plain,  $30.9^{\circ}$ ; Southern Interior,  $33.8^{\circ}$ ; Sea Coast,  $35.0^{\circ}$ .

The highest monthly mean was  $36.1^{\circ}$ , at Cape May C. H., and the lowest,  $25.6^{\circ}$ , at Layton.

The maximum was  $74^{\circ}$ , at Cape May C. H., on the 7th, and the minimum,  $-49^{\circ}$ , at Layton, on the 27th.

The range for the State was  $90^{\circ}$ .

The greatest local monthly range was  $83^{\circ}$ , at Layton, and the least,  $56^{\circ}$ , at Atlantic City.

The greatest daily range was  $37^{\circ}$ , at Layton, on the 27th.

## PRECIPITATION.

The average, 3.50 inches, was 0.30 of an inch below the normal, and 0.65 of an inch above the average for the corresponding month of 1906.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 3.71 inches; Red Sand Stone Plain, 4.08 inches; Southern Interior, 3.11 inches; Sea Coast, 3.12 inches.

The greatest monthly amount was 5.80 inches, at Chatham, and the least, 1.93 inches, at Cape May C. H.

The greatest amount in any 24 consecutive hours was 1.39 inches, at Bergen Point, on the 12th. No excessive precipitation occurred during the month.

The average number of days with a measurable amount was 14.

The greatest depth of snow for the month was 22.0 inches, at Sussex. The average depths for the various districts were as follows: The Highlands and Kittatinny Valley, 14.4 inches; Red Sand Stone Plain, 12.2 inches; Southern Interior, 7.0 inches; Sea Coast, 6.8 inches.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 8; partly cloudy, 9; cloudy, 14. At Atlantic City the duration of sunshine was 38 per cent of the possible amount (the least amount of sunshine on record for January), and at Jersey City (estimated), 39 per cent.

## WIND.

The prevailing direction was northwest. At Atlantic City the total movement was 6,232 miles, average hourly velocity, 8.4 miles; at Jersey City, total movement, 8,960 miles, average hourly velocity, 12.0 miles. At Jersey City a velocity of 61 miles per hour, from the west, occurred on the 20th.

## MISCELLANEOUS PHENOMENA.

*Halos, lunar.*—Bergen Point, 3; Newark, 28, 30; Rancocas, 29.

*Halos, solar.*—Indian Mills, 31; Jersey City, 13, 27; Layton, 29; Layton and Moorestown, 29.

*Thunderstorms.*—Charlotte, Dover, Lambertville, Phillipsburg, 4; Hightstown, Inlaytown, Trenton, 8.

*Sleet.*—Asbury Park, 26; Atlantic City, 17; Bayonne, 13, 15; Bergen Point, 13, 18, 25; Beverly, 17; Canton, 17, 26, 31; Cape

May, 17, 18; Cape May C. H., 17; Dover, 13; Englewood, 13, 25, 26; Friesburg, 17, 26; Indian Mills, 12; Jersey City, 13, 25; Layton, 18; Moorestown, 17, 26; Newark, 18, 25; Oceanic, 26; Paterson, 25; Phillipsburg, 15, 19, 25; Rancocas, 17, 26; Sussex, 18; Tuckerton, 25, 26; Vineland, 17, 25, 26.

*Fog.*—Asbury Park, 8, 14, 18; Atlantic City, 1, 8, 14, 19; Bayonne, 8, 19, 20; Bergen Point, 4, 8, 12, 19, 20; Beverly, 1, 14; Canton, 19; Cape May, 3, 8, 14, 15, 17, 18, 19, 20, 26; College Farm, 19; Englewood, 8, 18, 19, 20; Flemington, 3; Jersey City, 3, 4, 6, 8, 18, 19, 20, 25; Lambertville, 19; Moorestown, 14, 15, 19; Newark, 3, 12, 13, 14, 15, 17, 18, 19; New Brunswick, 19; Oceanic, 8, 12, 14, 15, 18, 19, 25; Paterson, 19; Phillipsburg, 3, 7, 8, 12, 14, 19, 20; Plainfield, 3, 8; Somerville, 3, 18, 19; Trenton, 7, 19; Vineland, 12, 14, 18, 19; Woodbine, 1, 18, 19, 31.

#### REMARKS BY OBSERVERS.

**BERGEN POINT.**—Cloudiness prevailed during the month. The precipitation was about normal.—Dr. W. H. Mitchell.

**BEVERLY.**—River navigation in this vicinity was suspended about the 21st.—C. F. Richardson.

**HIGHTSTOWN.**—During the first half of the month the weather was unusually mild for the season, but from the 23d to the 31st, inclusive, it was severely cold.—Ernst Wenger.

**IMLAYSTOWN.**—During the latter part of the month ponds in this vicinity were covered with ice ranging in thickness from 5 to 7 inches.—F. C. Price, M. D.

**JERSEY CITY.**—Prominent features of the month were excessive cloudiness and abnormally mild weather (1st to 15th, inclusive). During the first and second decades the average amount of sunshine was only 27 per cent of the possible amount.—S. K. Pearson, Jr.

**LAMBERTVILLE.**—The Delaware River was closed the greater part of the distance between this place and Trenton after the 24th.—Wm. R. Bowne.

**LAYTON.**—The weather during the first part of the month was moderate for the season. The last of the month was severely cold.—W. C. Hirsch.

**MOORESTOWN.**—Excessive cloudiness prevailed during the month. The first half of the month was notably mild, the second half cold.—J. C. Beans.

**PHILLIPSBURG.**—During the first and the greater part of the second decade the temperature averaged much above the normal and precipitation was of frequent occurrence. From the 17th to the end of the month the ground was covered with snow and there was good sleighing.—D. W. Smith.

**RANCOCAS.**—The general conditions during the latter part of the month were nearly the average, but the first twenty days were unseasonably mild.—Spencer Haines.

#### CLIMATOLOGY OF CAPE MAY C. H., NEW JERSEY

Cape May C. H., the county seat of Cape May County, is situated in the south-central portion of the county, in latitude

39°, 04 min. N., and longitude 74°, 49 min. W. The surrounding country is generally level. The Atlantic Ocean is about 5 miles east, and Delaware Bay about 4 miles west, of the town. The average elevation of the ground above sea level in the vicinity of the cooperative meteorological station is about 19 feet. Daily observations of the temperature, precipitation, direction of the wind, and the condition of the sky were begun at Cape May, C. H., in 1888, by J. F. Leaming, M. D., and have been continued by Mr. L. T. Garretson since October, 1898. The length and the continuity of the records virtually establish the climatology of the place. Standard Weather Bureau meteorological instruments, properly exposed, are in use at the station. The thermometer shelter, inclosing the self-registering thermometers, is located over sod, its floor being 3½ feet above the ground. The rain gage has a ground exposure, and is unobstructed. The daily observation is taken at 8 p. m., 75th meridian time.

The temperature extremes at Cape May C. H. for the period extending from July, 1888, to December, 1906, inclusive, are given in the following table:

#### TEMPERATURE EXTREMES.

Month.	Absolute maximum.	Year.	Absolute minimum.	Year.	Highest monthly mean.	Year.	Lowest monthly mean.	Year.
January .....	78	1890	-7	1893	45.3	1890	23.7	1891
February .....	70	1891	-5	1899	44.1	1890	26.1	1891
March .....	81	1894	10	1890	47.8	1903	36.9	1891
April .....	88	1896	23	1894	53.2	1891	47.8	1891
May .....	94	1900	33	1900	65.2	1896	57.8	1891
June .....	99	1899	41	1891	74.3	1889	65.0	1901
July .....	102	1901	41	1893	79.2	1901	70.9	1891
August .....	103	1900	48	1888	79.6	1900	69.7	1891
September .....	96	1895	35	1904	73.2	1900	65.1	1888
October .....	90	1900	26	1893	62.3	1900	51.6	1888
November .....	76	1900	13	1891	52.4	1896	41.2	1901
December .....	70	1889	6	1901	46.6	1889	31.4	1901

a, also 1900.    b, also 1902.    c, also 1901.    d, also 1904.    e, also 1890  
and 1904.    f, also 1904.    g, also 1906.    h, also 1904.

(To be concluded.)

#### COMPARATIVE DATA FOR JANUARY.

Year.	Temperature.			Average precipitation
	Mean.	Highest.	Lowest.	
1887 .....	28.4	73	-6	3.86
1888 .....	25.4	59	-12	4.77
1889 .....	36.2	67	8	5.68
1890 .....	41.3	78	12	2.29
1891 .....	34.2	59	10	6.57
1892 .....	29.9	67	-6	5.13
1893 .....	21.6	54	-21	3.04
1894 .....	34.2	61	-4	2.34
1895 .....	28.1	64	-4	4.66
1896 .....	28.6	61	-7	1.66
1897 .....	29.0	64	-6	2.80
1898 .....	32.6	64	-10	4.20
1899 .....	30.1	60	-21	4.01
1900 .....	32.4	66	-5	3.85
1901 .....	30.4	63	-6	2.52
1902 .....	28.4	58	-5	3.28
1903 .....	30.4	57	-5	3.90
1904 .....	23.3	58	-31	3.09
1905 .....	27.0	60	-16	4.18
1906 .....	36.5	74	-5	2.85
1907 .....	31.8	71	-19	3.50



## CLIMATOLOGICAL DATA FOR JANUARY, 1907.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (melted).	Number rainy days.	Number clear days.	Number partly cloudy days.		Number cloudy days.	Prevailing direction of wind.
THE HIGHLANDS & MOUNTAIN VALLEY.																				
Layton.....	Sussex.....	550	8	25.6	+2.1	64	7	10	27	37	1.55	+0.63	0.90	21.3	12	10	12	9	n.	Warren C. Hursh.
Sussex.....	do.....	442	13	27.0	+1.0	63	7	8	27	27	2.51	+0.60	0.60	22.0	9	13	9	9	w.	Prof. W. H. Seely.
Newton.....	do.....	678	27	27.2	+1.6	64	7	11	27	33	2.35	+1.19	0.63	15.5	10	8	10	13	n.	Brice Bowman.
Charlotteburg.....	Passaic.....	710	15	29.4	+2.7	63	7	7	31	31	3.83	+0.66	0.68	14.0	12	10	12	9	nw.	G. S. Briggs.
Pompton Plains.....	Morris.....		4								4.90			12.9	18				ne.	River & Flood Service.
Boonton.....	do.....										4.93			9.0	17				ne.	William C. Harris.
Dover.....	do.....	575	23	26.8	0.0	60	7	3	24	27	3.60	+0.91	1.00	11.0	12	4	14	13	.....	River & Flood Service.
Belvidere.....	Warren.....	289	17	28.4	+1.7	55	7	4	24	30	3.99	+0.88	0.95	11.3	11	10	6	15	.....	Samuel J. Hixson.
Phillipsburg.....	do.....	190	5	28.9	+2.3	58	7	2	24	22	3.70	+0.66	0.80	12.7	17	9	7	15	ne.	D. W. Smith.
District averages.....				27.6	+1.6						3.71	+0.30		14.4	13	9	8	14	ne.	
THE RED SAND STONE PLAIN.																				
Mahwah.....	Bergen.....		4								5.25			12.9	15				ne.	River & Flood Service.
River Vale.....	do.....	70	16	28.3	+0.6	67	7	10	31	35	5.40	+1.52		21.5	15				nw.	G. S. M. Holdrum.
Patereson.....	Passaic.....	110	31	32.2	+3.1	67	7	2	24	27	3.47	+0.77	0.70	10.5	17	4	15	12	n.	H. A. Probert.
Englewood.....	Bergen.....	135	17	30.0	+1.8	64	7	3	24	26	3.39	+0.57	0.93	12.8	19	7	5	19	ne.	William C. Tucker.
Little Falls.....	Passaic.....		4								5.61			10.2	19				w.	River & Flood Service.
South Orange.....	Essex.....	200	38	29.9	+1.4	63	7	0	24	22	3.24	+0.95	1.10	9.5	11	4	9	18	ne.	W. J. Chandler, M. D.
Chatham.....	Morris.....		4								5.80			11.1	15				ne.	River & Flood Service.
Newark.....	Essex.....	140	65	31.1	+2.2	65	7	1	4	30	4.93	+1.19	1.22	14.7	19	5	5	21	nw.	Wm. Wiener.
New York, N. Y.....	New York.....	314	37	32.2	+1.7	62	7	0	24	24	3.26	+0.50	0.98	11.7	19	7	9	15	nw.	U. S. Weather Bureau.
Jersey City.....	Hudson.....	15	2	32.1		63	7	1	24	22	3.52		1.04	10.6	17	7	6	18	nw.	Samuel K. Pearson, Jr.
Bayonne.....	do.....	50	17	31.1	+1.5	64	7	0	24	24	3.55	+0.23	1.10	10.7	17	6	10	15	ne.	John H. Eadie.
Bergen Point.....	do.....	37	10	31.2	+0.9	62	7	1	24	22	4.05	+0.04	1.39	13.2	14	4	13	14	nw.	Dr. W. H. Mitchell.
Elizabeth.....	Union.....	33	28	32.6	+2.8	61	7	2	24	27	3.49	+0.69	1.10	14.0	12	11	8	12	.....	W. M. Oliver.
Plainfield.....	do.....	100	17	30.4	+1.7	61	7	1	24	24	3.57	+0.18	1.10	12.2	14	6	13	12	ne.	John Neagle.
Somerville.....	Somerset.....	76	28	30.4	+2.7	60	7	1	24	26	3.94	+0.14	1.10	13.0	16	5	8	18	sw.	Peter Hardcastle.
Flemington.....	Hunterdon.....	187	10	30.3	+2.1	62	7	0	24	28	3.85	+0.25	1.03	8.5	14	11	7	13	w.	H. E. Deats.
New Brunswick.....	Middlesex.....	61	54	30.7	+0.2	62	7	2	24	31	3.97	+0.17	1.15	13.0	9	15	6	10	w.	Wm. T. Woerner.
College Farm.....	do.....	100	12	30.5	+0.8	62	7	3	24	32	3.44	+0.16	1.23	10.6	10	9	10	12	n.	Miss J. A. Voorhees.
Lambertville.....	Hunterdon.....	95	21	31.4	+2.1	59	7	1	24	28	3.78	+0.38	1.15	10.5	11	10	8	13	nw.	William R. Bowne.
District averages.....				30.9	+1.7						4.08	0.0		12.2	15	7	9	15	nw.	
THE SOUTHERN INTERIOR.																				
Hightstown.....	Mercer.....	85	16	31.0	+1.8	65	7	1	24	29	4.21	+0.84	1.35	11.2	12	6	7	18	ne.	Ernst Wenger.
Trenton.....	do.....	60	38	30.4	+1.3	65	7	1	24	28	4.30	+0.82	1.38	8.0	10	3	17	11	nw.	E. R. Cook.
Delaware.....	Monmouth.....	106	21	31.8	+1.2	67	7	0	24	32	4.44	+0.95	0.90	8.5	16	7	12	12	n.	F. C. Price, M. D.
Lakewood.....	Ocean.....	54	7	34.0	+2.9	70	7	1	24	20	3.95	+0.54	0.80	8.0	11	12	9	10	n.	C. A. Roe.
Beverly.....	Burlington.....	30	23	31.7	+1.2	65	7	1	24	28	3.54	+0.14	0.81	11.0	12	6	14	11	ne.	C. F. Richardson.
Rancocas.....	do.....	68	22			65	7	1	24		3.24	+0.27	1.02	8.2	12	7	6	18	nw.	Spencer Haines.
Brown's Mills.....	do.....	71	2																nw.	F. J. Miller.
Moorestown.....	do.....	71	43	32.6	+2.7	67	7	0	24	28	2.93	+0.60	0.74	7.8	16	7	8	16	nw.	John C. Beams.
Philadelphia, Pa.....	Philadelphia.....	117	37	31.2	+1.8	65	7	6	24	28	2.65	+0.61	0.58	7.4	16	7	5	19	n.	U. S. Weather Bureau.
Toms River.....	Ocean.....	33	10																n.	F. G. Bunnell.
Indian Mills.....	Burlington.....	76	7	31.0	+2.6	70	7	3	24	34	3.18	+0.05	0.65	6.0	12	8	11	12	nw.	James Armstrong.
Clayton.....	Gloucester.....	126	11	33.4	+2.1	66	7	3	24	28	2.55	+0.55		4.3	13	14	6	11	n.	Wm. T. Farley.
Tuckerton.....	Ocean.....	23	10	35.1	+1.5	68	7	2	24	33	3.11	+0.25		6.2	15	6	11	14	ne.	F. R. Austin.
Friesburg.....	Salem.....	143	15	34.0	+1.6	69	7	3	24	30	2.83	+0.12	0.48	4.3	16	5	14	12	w.	H. C. Perry.
Vineyard.....	Cumberland.....	118	49	34.0	+2.2	69	7	2	24	31	2.30	+1.92	0.50	5.8	14	11	10	10	nw.	Alfred Chalmers.
Canton.....	Salem.....	24	6								2.40			5.0	11	11	9	11	.....	J. H. Maskell.
Bridgeton.....	Cumberland.....	30	21	35.2	+1.3	70	7	5	24	30	2.89	+0.43	0.50	6.3	13	9	7	15	nw.	Henry A. Jorden.
Pleasantville.....	Atlantic.....	26	5								2.36		0.90		15	10	9	12	w.	L. Van Gilder.
Woodbine.....	Cape May.....	43	16	35.6	+3.8	68	7	1	24	35	1.97	+1.15	0.75	3.0	7	17	4	10	w.	Arthur R. Merrill.
Cape May C. H.....	do.....	19	20	36.4	+2.1	71	7	2	24	27	1.93	+1.37	0.48	7.3	11	6	8	17	nw.	L. T. Garretson.
District averages.....				33.8	+2.0						3.11	+0.28		7.0	13	8	9	14	nw.	
THE SEA COAST.																				
Sandy Hook.....	Monmouth.....	14	4																	Arthur E. Jewell.
Oceanic.....	do.....	16	21	34.5	+2.3	68	7	3	24	30	3.15	+0.56	1.36	8.0	16	9	10	12	nw.	Rev. S. W. Knipe.
Asbury Park.....	do.....	22	19	34.2	+2.0	69	7	1	24	31	3.60	+0.66	0.88	10.3	13	7	7	17	w.	B. H. Obert.
Atlantic City.....	Atlantic.....	16	32	35.0	+2.4	60	7	4	24	26	2.79	+0.56	0.93	5.4	13	6	5	20	n.	Section Center.
Cape May City.....	Cape May.....	17	14	36.2	+1.8	63	8	5	24	23	2.65	+1.20	0.60	3.6	14	6	14	11	n.	U. S. Weather Bureau.
District averages.....				35.0	+2.1						3.12	+0.60		6.8	14	7	9	15	n.	

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

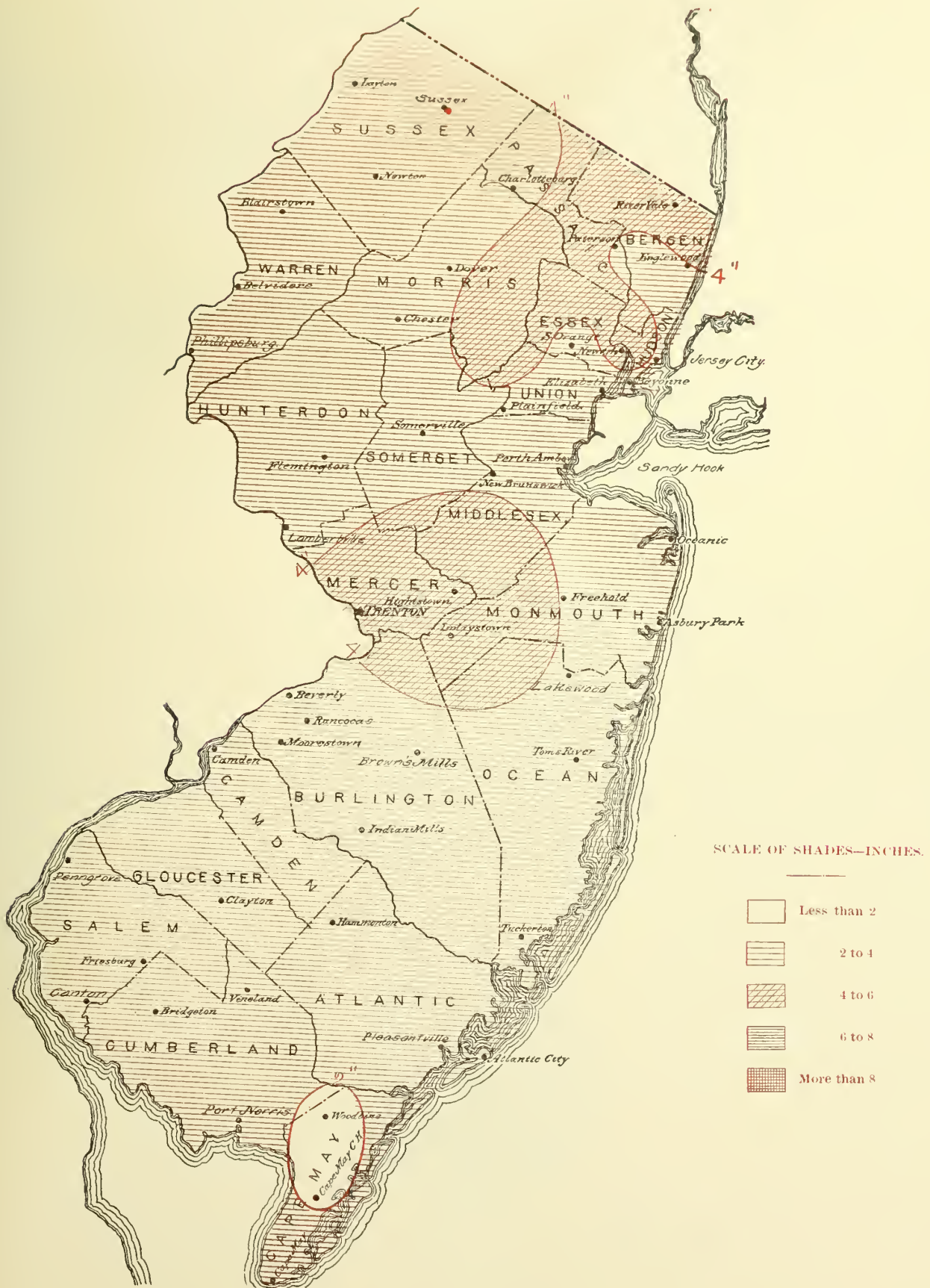
\* Occurred on more than one date.

† Received late; not considered in averages.





# Total Monthly Precipitation, January, 1907



## TOTAL PRECIPITATION FOR JANUARY, 1907.

Stations.	Day of Month.																															Total	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
THE HIGHLANDS & KITTA-TINNY VALLEY.																																	
Layton	.18		.06	.14				.39				.48	.06			.11	.90	T.	.40	.08		T.				.25	.50						3.55
Sussex		.05	.16									.50		.40			.60	T.	.10			T.			.10	.56		T.		.10			2.51
Newton		.03	.24				.20					.26		.29	.06		.63	T.				T.	T.		.05	.56		T.	T.		.03		2.35
Charlotteburg			.60				*	.19			*	.68		.48			.52			.56					T.	.42					.08	.30	3.83
Pompton Plains	1.88	*	.17	.24			*	.18				.09	.50	.20	.12	.08	.02	.56	.08	.48				*	.13	.06	.07			.03	.01		4.90
Boonton	2.21		.13	.29			.03	.08				.16	.03	.23	.13	.10	T.	.07	.34	.19	T.				.05	.18	.03	.02	*	.06	T.		4.93
Dover		*	.55				.14					1.00	.10	.14	.16		.65			.54					.10		.22					3.60	
Belvidere	.07		.38				.22					.81		.35	.17		.95		.52	.04							.40			.08		3.99	
Phillipsburg	.05		.08	.43			.12	.01				.80	.03	.50	.12		.68	.04	.41	.03		T.				.03	.31	T.	.01		.05		3.70



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U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR FEBRUARY, 1907.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

---

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

---

UNDER DIRECTION OF

WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.

WEATHER BUREAU OFFICE

MARCH 18, 1907

## Monthly Mean Isotherms and Prevailing Winds, February, 1907





U. S. DEPARTMENT OF AGRICULTURE,  
**CLIMATOLOGICAL SERVICE**

OF THE

**WEATHER BUREAU.**

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XX. ATLANTIC CITY, N. J., FEBRUARY, 1907. No. 2.

**GENERAL SUMMARY.**

The month was exceptionally cold, the deficiency in daily mean temperature averaging about  $6^{\circ}$  per day. The most marked deficiencies, ranging from  $8^{\circ}$  to nearly  $11^{\circ}$  per day, occurred in portions of Bergen, Essex, Middlesex, Monmouth, Morris, and Sussex counties, where at several stations the mean temperature records for February were lowered. The mean temperature for the State was one of the lowest recorded for February in a period of 21 years, the mean for February, 1905, being merely a fraction of a degree lower. The minimum temperature records for February were lowered on the 7th, when a reading of  $-22^{\circ}$  was reported in the extreme north. Minimum temperatures were below zero over the greater portion of the more northern counties on 9 days, and were about zero over the southern half of the State on 2 to 4 days. The mildest weather of the month occurred during the first 3 days and from the 14th to the 17th, inclusive.

The precipitation during the month was mostly snow and was below the normal. A few small, scattered areas received nearly average amounts, but there was a large deficiency—more than 2 inches—in parts of Bergen, Morris, and Union counties in the north, and in Cape May, Mercer, and Ocean counties in the south. Generally the precipitation was well distributed over the district, altho in several localities, mostly in the extreme south, the monthly totals did not exceed 2 inches. The greater part of the precipitation occurred during the first and third decades, the second decade being comparatively free from rain or snow. Snow fell on the 1st, 4th–5th, 10th, 24th–25th, and 27th, the greatest 24-hour depths, ranging from 5 to 24 inches, occurring on the 4th–5th. Snow covered the ground practically the entire month.

There was more sunshine than during any month since September, 1906.

The mean temperature for the winter of 1906–7 is  $29.5^{\circ}$ ,  $1.8^{\circ}$  below the normal, and  $4.8^{\circ}$  below the mean for the winter of 1905–6.

**TEMPERATURE.**

The monthly mean,  $23.6^{\circ}$ , was  $6.2^{\circ}$  below the normal, and  $7.3^{\circ}$  below the mean for the corresponding month of 1906.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $19.5^{\circ}$ ; Red Sand Stone Plain,  $22.6^{\circ}$ ; Southern Interior,  $25.7^{\circ}$ ; Sea Coast,  $26.8^{\circ}$ .

The highest monthly mean was  $28.8^{\circ}$ , at Cape May C. H., and the lowest,  $17.0^{\circ}$ , at Layton.

The maximum was  $55^{\circ}$ , at Lakewood, Toms River, and Vineland on the 14th, and the minimum,  $-22^{\circ}$ , at Charlotteburg and Layton, on the 7th.

The range for the State was  $77^{\circ}$ .

The mean daily range was  $19^{\circ}$ .

The greatest local monthly range was  $68^{\circ}$ , at Charlotteburg, and the least,  $34^{\circ}$ , at Cape May.

The greatest daily range was  $50^{\circ}$ , at River Vale, on the 10th.

The local departures from the normal temperature ranged from  $-10.7^{\circ}$ , at New Brunswick, to  $-2.8^{\circ}$ , at Tuckerton.

**PRECIPITATION.**

The average (including melted snow), 2.67 inches, was 1.19 inches below the normal, and 0.09 of an inch above the average for the corresponding month of 1906.

The local departures from the normal ranged from  $-2.39$  inches, at Englewood, to  $+0.56$  of an inch, at Layton.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 2.68 inches; Red Sand Stone Plain, 2.81 inches; Southern Interior, 2.52 inches; Sea Coast, 2.68 inches.

The greatest monthly amount was 3.90 inches, at River Vale, and the least, 1.82 inches, at Bridgeton.

The greatest amount in 24 consecutive hours, or less, was 2.00 inches, at Belvidere, on the 4th–5th, at River Vale, on the 5th, and at Newark, on the 4th–5th.

The average number of days with a measurable amount was 8.

The greatest depth of snow for the month was 35.0 inches, at River Vale. The average depths for the various districts were as follows: The Highlands and Kittatinny Valley, 22.7 inches; Red Sand Stone Plain, 25.0 inches; Southern Interior, 16.8 inches; Sea Coast, 15.6 inches.

**SUNSHINE AND CLOUDINESS.**

The average number of clear days was 14; partly cloudy, 7; cloudy, 7. At Atlantic City the duration of sunshine was 66 per cent of the possible amount, and at Jersey City (estimated), 60 per cent. Sunshine was slightly above the normal.

**WIND.**

The prevailing direction was northwest. At Atlantic City the total movement was 6,186 miles; average hourly velocity, 9.2 miles; maximum velocity, 41 miles per hour, from the northeast, on the 5th. At Jersey City the total movement was 8,632 miles; average hourly velocity, 12.8 miles; maximum velocity, 46 miles per hour, from the west, on the 10th. Brisk to high winds were reported on the 3d, 4th, 5th, 11th, 12th, 17th, and 25th.

**MISCELLANEOUS PHENOMENA.**

*Aurora*.—Newark, 12.

*Haze*.—Atlantic City, 14, 27; Newark, 14.

*Halos, solar*.—Atlantic City, 7, 19, 28; Imlaystown, Jersey City, and New Brunswick, 7; Moorestown, 7, 17, 28.

*Halos, lunar.*—Asbury Park, Atlantic City, Beverly, Inlays-town, Jersey City, Moorestown, Plainfield, and Somerville, 26; Cape May, 23; Newark, 23, 25; Trenton, 18, 28.

*Sleet.*—Bergen Point, 1, 19; Cape May, 4; Cape May C. H., 5; Jersey City, 24; Moorestown, 1, 5; Newark, 24; Paterson and Phillipsburg, 19; Rancocas, 1, 5; Somerville, 19; Toms River and Trenton, 24; Vineland, 1, 5.

*Fog.*—Atlantic City, Clayton, Phillipsburg, and Vineland, 1, 2; Bayonne, 14; Bergen Point, 2; Beverly, 2, 14, 25; Cape May, 1, 2, 3, 14, 19, 25; Englewood, 2; Hightstown, 14; Jersey City, 2, 19; Moorestown and Somerville, 19; Newark, 14; Trenton, 2, 14; Tuckerton, 1.

#### REMARKS BY OBSERVERS.

LAYTON.—The month was severely cold. Streams were frozen to a great depth.—W. C. Hursh.

NEWTON.—The mean temperature is the lowest for February in a period of 27 years.—Brice Bowman.

HIGHTSTOWN.—The mean temperature is the lowest for February in a period of 17 years.—Ernst Wenger.

JERSEY CITY.—Snow covered the ground the entire month. There was abundant sunshine.—S. K. Pearson, Jr.

BEVERLY.—The Delaware River in this vicinity was closed to navigation during the month.—C. F. Richardson.

SOMERVILLE.—The thickness of ice in the Raritan River at the close of the month was 18 inches.—Peter Hardecastle.

DOVER.—Severe, cold weather prevailed during the month. Snowfall was about 6 inches above the normal.—W. C. Harris.

LAMBERTVILLE.—The Delaware River remained closed between this place and Trenton during the month.—W. R. Bowue.

SOUTH ORANGE.—The snowfall was 16 inches above the average. The mean temperature is the lowest for February in a period of 37 years.—Wm. J. Chandler.

BAYONNE.—The month was unusually cold, the minimum temperatures being below 10° on 9 days. The ground was covered with snow the entire month.—J. H. Eadie.

MOORESTOWN.—With three exceptions (1868, 1885, and 1895) the mean temperature is the lowest for February in a period of 43 years. At the close of the month the depth of snow in the woods was about 9 inches.—J. C. Beans.

#### CLIMATOLOGY OF CAPE MAY C. H., NEW JERSEY

[Continued from January Report.]

Owing to the influence of large bodies of water, the winter is milder, spring and summer are slightly cooler, and autumn slightly warmer at Cape May C. H. than at inland stations in the extreme southern part of New Jersey. Minimum temperatures of zero, or lower, and maximum temperatures of 100°, or higher, are infrequent. The mean daily range of temperature is only 16°.

The average temperatures for the several seasons are as follows: Winter, 35.1°; spring, 50.9°; summer, 72.4°; autumn, 57.0°.

The normal monthly temperatures are: January, 34.3°; February, 33.5°; March, 41.6°; April, 50.4°; May, 60.7°; June, 69.8°; July, 74.1°; August, 73.4°; September, 67.8°; October, 56.7°; November, 46.6°; December, 37.6°.

July is the warmest month and February the coldest.

The annual mean temperature is 53.8°.

In a period of 19 years the annual mean temperatures have ranged from 51.4° (1904) to 56.0° (1900).

The summer and autumn of the year 1900 were exceptionally warm, the former having averaged 4° and the latter 5° above the normal. The coolest summer, average temperature 70.2°, occurred in 1903.

The temperature of the mildest winter (1889–1890) averaged 45.3°, or about 10° above the normal.

The average temperatures for the unusually cold winters of 1903–4 and 1904–5 were 29.3° and 29.8°, respectively.

The absolute annual range of temperature is 110°, the extremes being 103° (August, 1900), and —7° (January, 1893).

Maximum temperatures exceeding 99° have been reported only five times in a period of 19 years, and minimum temperatures of zero, or lower, only four times in a period of 18 years.

The average date of the last killing frost in spring is April 17, and of the first killing frost in autumn, October 20. The growing season averages about 20 days longer than at stations in the north central portion of New Jersey. Destructive frosts have never occurred in September, within the period covered by the records, and with one exception the last destructive frost of spring has been confined to the month of April.

[To be concluded.]

#### CORRECTIONS.

January, 1907, Report.—On the chart of monthly mean isotherms, etc., the most southerly isotherm should have the figures 36, instead of 34, at the eastern end.

In the General Summary, page 3, the last sentence of the first paragraph should read: "In the southern part of the State the minimum temperatures, ranging from —1° to 5° were the lowest on the 24th."

#### COMPARATIVE STATE DATA FOR FEBRUARY.

Year.	Temperature.			Average precipitation
	Mean.	Highest.	Lowest.	
1887.....	33.9	60	4	5.24
1888.....	30.6	60	5	3.53
1889.....	27.7	57	3	2.49
1890.....	39.9	76	14	4.17
1891.....	38.0	71	1	5.11
1892.....	33.6	58	7	1.63
1893.....	30.1	63	—1	5.73
1894.....	29.7	62	—11	4.42
1895.....	23.6	57	—12	1.28
1896.....	32.1	62	—12	6.77
1897.....	32.5	59	—6	3.61
1898.....	32.7	65	—15	3.48
1899.....	25.8	60	—17	6.06
1900.....	31.0	60	—6	5.30
1901.....	25.4	62	—7	9.94
1902.....	27.4	70	—16	6.24
1903.....	33.7	65	—16	4.87
1904.....	24.8	57	—18	2.45
1905.....	30.9	64	—12	2.58
1906.....	30.9	55	—22	2.07
1907.....	23.0			



CLIMATOLOGICAL DATA FOR FEBRUARY, 1907.

Stations	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing direction of wind.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 4 hours.	Total snowfall unmelted.	Number rainy days.	Number clear days.	Number partly cloudy days.			Number cloudy days.
THE HIGHLANDS & KITTATINNY VAL.																				
Layton.....	Sussex.....	550	8	17.0	-4.9	43	14	22	7	48	2.92	+0.56	1.20	22.0	7	20	4	4	n.	Warren C. Hursh.
Sussex.....	do.....	442	13	19.2	-6.2	44	14	9	24	33	2.21	-1.07	1.30	19.5	7	17	6	5	w.	Prof. W. H. Seeley.
Newton.....	do.....	678	27	19.3	-7.8	44	10	12	24	39	2.39	-1.17	1.35	22.5	8	15	5	8	n.	Brice Bowman.
Charlotteburg (a).....	Passaic.....	710	15	19.0	-6.4	46	14	-22	7	47	2.84	-1.70	1.40	23.0	8	19	3	6	nw.	G. S. Briggs.
Pompton Plains (†).....	Morris.....	105	4	.....	.....	.....	.....	.....	.....	.....	3.34	-1.83	.....	32.0	9	.....	.....	.....	nw.	River & Flood Service.
Boniton.....	do.....	413	8	.....	.....	.....	.....	.....	.....	.....	2.15	-2.23	0.75	19.4	8	.....	.....	.....	nw.	River & Flood Service.
Haver (a).....	do.....	575	23	19.2	-7.8	42	*2	-6	23	29	3.57	0.75	1.80	28.5	8	4	15	9	.....	William C. Harris.
Relvidere.....	Warren.....	280	17	21.2	-6.1	46	10	-9	7	35	3.10	-0.82	2.00	26.0	7	15	5	8	.....	Samuel J. Hixson.
Phillipsburg.....	do.....	106	5	21.8	-6.0	44	10	-2	12	32	2.27	-1.09	0.82	20.5	10	16	4	8	nw.	D. W. Smith.
District averages.....				19.5	-6.7						2.68	-1.10	.....	22.7	8	15	6	7	nw	
THE RED SAND STONE PLAIN.																				
Mahwah.....	Bergen.....	.....	4	.....	.....	.....	.....	.....	.....	.....	2.83	.....	1.61	28.2	8	.....	.....	.....	nw.	River & Flood Service.
River Vale.....	do.....	70	16	17.8	-8.9	44	14	-21	7	50	3.90	-0.54	2.00	35.0	8	.....	.....	.....	nw.	G. S. M. Holdrum.
Paterson.....	Passaic.....	110	31	24.4	-5.8	46	14	2	7	29	2.76	-1.83	1.23	24.6	8	7	15	6	nw.	H. A. Probert.
Englewood.....	Bergen.....	135	17	22.4	-4.9	41	10	0	12	24	2.61	-2.39	0.62	23.0	8	12	6	10	nw.	William C. Tucker.
Little Falls.....	Passaic.....	175	4	.....	.....	.....	.....	.....	.....	.....	2.61	-1.06	24.1	8	.....	.....	.....	.....	w.	River & Flood Service.
South Orange.....	Essex.....	200	38	21.9	-7.9	45	14	-1	12	30	2.86	-1.22	1.40	28.0	6	16	4	8	nw.	W. J. Chaudler, M. D.
Chatham.....	Morris.....	234	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	nw.	River & Flood Service.
Newark.....	Essex.....	149	65	23.0	-6.6	45	14	-2	12	25	3.72	+0.68	2.00	31.0	8	10	9	9	nw.	Wm. Wiener.
New York, N. Y.....	New York.....	314	37	24.4	-6.3	44	14	1	12	29	2.52	-1.22	1.07	20.3	8	9	11	8	nw.	U. S. Weather Bureau.
Jersey City.....	Hudson.....	15	2	24.5	.....	45	14	0	12	23	3.06	.....	1.41	23.5	10	10	9	9	nw.	Samuel K. Pearson, Jr.
Bayonne.....	do.....	50	17	22.8	-6.6	44	14	-1	*7	29	2.61	-1.20	1.00	22.2	9	12	7	9	nw.	John H. Eadie.
Bergen Point.....	do.....	37	10	23.2	-5.5	45	14	0	12	27	2.88	-1.11	1.35	27.5	8	8	13	7	nw.	Dr. W. H. Mitchell.
Elizabeth.....	Union.....	33	28	24.5	-6.0	44	14	0	12	28	2.24	-2.12	.....	18.0	7	17	4	7	.....	W. M. Oliver.
Plainfield.....	do.....	100	17	22.8	-5.7	45	14	-5	7	33	2.81	-1.23	1.00	24.0	10	10	9	9	nw.	John Neagle.
Somerville.....	Somerset.....	76	28	21.9	-6.7	44	10	-10	7	34	2.68	-1.27	1.37	25.5	10	12	6	10	nw.	Peter Hardestle.
Flemington.....	Hunterdon.....	187	10	21.6	-5.8	43	10	-9	7	37	2.72	-0.80	0.80	22.0	10	15	6	7	nw.	H. E. Deats.
New Brunswick (b).....	Middlesex.....	61	54	21.0	-10.7	43	*10	-5	7	32	2.35	-1.37	1.00	22.0	7	18	1	9	w.	Wm. T. Woerner.
College Farm.....	do.....	100	12	21.8	-6.6	45	14	-5	7	34	2.55	-1.06	1.25	24.5	9	17	5	6	n.	Miss J. A. Voorhees.
Lambertville.....	Hunterdon.....	95	21	23.4	-6.9	42	*2	-2	*7	35	2.86	-0.45	1.40	26.2	9	17	4	7	nw.	William R. Bowne.
District averages.....				22.6	-6.7						2.81	-1.18	.....	25.0	8	13	7	8	nw.	
THE SOUTHERN INTERIOR.																				
Hightstown.....	Mercer.....	85	16	21.7	-7.0	47	14	-11	7	36	1.92	-2.15	1.00	18.1	8	15	2	11	nw.	Ernst Wenger.
Trenton.....	do.....	60	38	26.6	-5.1	50	14	-2	12	34	2.53	-1.06	.....	18.0	6	4	16	8	nw.	E. R. Cook.
Imlaystown.....	Monmouth.....	106	21	23.4	-7.7	47	14	-10	7	36	2.30	-1.45	1.04	16.5	9	13	10	5	nw.	F. C. Price, M. D.
Lakewood.....	Ocean.....	54	7	26.4	-3.0	55	14	-3	7	35	2.76	-0.89	0.79	15.0	6	18	5	5	nw.	C. A. Roe.
Beverly.....	Burlington.....	30	23	24.2	-7.3	51	14	-1	*7	36	2.08	-0.83	1.10	28.0	10	10	13	5	w.	C. F. Richardson.
Rancocas.....	do.....	68	22	.....	.....	49	14	1	*7	.....	2.83	-0.86	1.10	20.0	8	15	4	9	nw.	Spencer Haines.
Brown's Mills.....	do.....	71	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	nw.	F. J. Miller.
Moorestown.....	do.....	71	43	24.1	-6.8	48	14	0	7	32	2.86	-0.73	1.40	19.3	12	14	5	9	nw.	John C. Beans.
Philadelphia, Pa.....	Philadelphia.....	117	37	27.0	-5.7	50	14	8	12	23	2.75	-0.47	1.23	24.1	10	12	9	7	nw.	U. S. Weather Bureau.
Toms River.....	Ocean.....	33	16	24.1	-5.9	55	14	-6	7	36	2.42	-2.22	0.68	18.2	6	14	5	9	nw.	F. G. Bunnell.
Ludian Mills (a).....	Burlington.....	76	7	26.5	-3.4	47	16	2	7	34	3.45	-0.49	1.10	17.5	8	16	7	5	nw.	James Armstrong.
Clayton.....	Gloucester.....	126	11	25.6	-3.4	51	14	-1	7	33	2.19	-1.69	0.62	12.5	4	20	.....	.....	nw.	Wm. T. Farley.
Tuckerton.....	Ocean.....	23	10	26.2	-2.8	52	14	1	*7	29	2.95	-0.84	1.08	10.7	10	7	16	5	nw.	F. R. Austin.
Friesburg.....	Salem.....	100	15	25.8	-3.8	54	14	-5	7	33	2.24	-1.71	0.39	11.9	9	12	9	7	nw.	H. C. Perry.
Vineyard (†).....	Cumberland.....	118	40	26.8	-6.0	55	14	0	7	34	2.93	-1.21	0.84	13.0	11	18	3	7	nw.	Alfred Chalmers.
Canton.....	Salem.....	24	6	.....	.....	.....	.....	.....	.....	.....	2.51	-0.54	1.03	8.5	6	17	5	6	nw.	J. H. Maskell.
Bridgeton.....	Cumberland.....	30	21	27.5	-6.7	52	*14	2	7	28	1.82	-1.96	0.70	12.8	5	18	1	9	nw.	Henry A. Jorden.
Pleasantville.....	Atlantic.....	26	5	.....	.....	.....	.....	.....	.....	.....	1.89	.....	0.53	.....	11	15	6	7	nw.	L. Van Gilder.
Woodbine (b).....	Cape May.....	43	16	27.3	-3.5	54	16	1	7	32	1.99	-2.26	0.63	12.0	10	20	2	6	w.	Arthur R. Merrill.
Cape May C. H.....	do.....	19	20	28.8	-4.7	52	16	5	7	28	3.00	-0.80	1.17	21.1	10	10	10	8	nw.	L. T. Garretson.
District averages.....				25.7	-5.4						2.52	-1.36	.....	16.8	8	14	7	7	nw.	
THE SEA COAST.																				
Oceanic.....	Monmouth.....	16	21	25.7	-6.1	53	14	0	12	34	2.58	-1.18	0.95	17.7	9	14	8	6	nw.	Rev. S. W. Knipe.
Asbury Park.....	do.....	22	19	26.0	-6.0	53	14	0	12	26	2.64	-1.57	0.55	17.8	11	15	6	7	w.	B. H. Obert.
Atlantic City.....	Atlantic.....	16	32	27.4	-5.6	46	14	6	12	28	2.93	-0.45	1.40	10.4	8	14	6	8	nw.	Section Center.
Cape May City.....	Cape May.....	17	14	28.2	-5.9	44	*14	10	23	28	2.55	-1.23	0.73	16.4	8	11	9	8	nw.	U. S. Weather Bureau.
District averages.....				26.8	-5.9						2.68	-1.11	.....	15.6	9	14	7	7	nw.	

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.  
Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.  
\* Occurred on more than one date.  
† Received late; not considered in averages.

## DAILY MAXIMUM AND MINIMUM TEMPERATURES FOR FEBRUARY, 1907.

Stations.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	Monthly Mean.	
<b>HIGHLANDS &amp; KUT- TATINNY VAL.</b>																																	
Layton .....	33	17	41	30	37	17	18	13	22	10	18	16	26	22	5	31	11	40	21	36	14	14	5	27	17	14	14	14	14	14	14	14	20.9
Sussex .....	32	17	39	40	19	17	18	10	18	10	18	7	25	20	10	30	10	30	10	30	10	15	6	34	15	27	28	4	27	13	20	20.5	
Newton .....	34	16	42	30	38	18	22	18	22	9	26	10	28	9	33	6	33	6	44	21	35	17	19	8	39	31	27	9	32	9	31	29.5	
Charlotteburg .....	31	14	44	30	38	18	22	18	22	9	26	10	28	9	33	6	33	6	44	21	35	17	19	8	39	31	27	9	32	9	31	31.7	
Dover .....	32	14	42	30	38	18	22	18	22	9	26	10	28	9	33	6	33	6	44	21	35	17	19	8	39	31	27	9	32	9	31	30.7	
Belvidere .....	36	20	42	32	36	16	21	13	15	11	15	4	22	22	20	9	31	3	40	21	34	7	10	12	33	16	31	7	24	2	32	30.7	
Phillipsburg .....	32	20	43	31	38	20	21	14	20	12	22	2	24	0	30	12	30	2	44	23	38	15	18	2	37	20	31	11	31	16	31	31.1	
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<b>THE RED SAND STONE PLAIN.</b>																																	
River Vale .....	33	24	43	31	39	20	24	14	18	7	17	20	17	20	21	24	21	39	19	37	17	40	16	39	12	37	3	39	6	30	30.8		
Paterson .....	35	21	45	34	42	25	24	17	20	15	22	14	18	14	15	25	13	40	20	39	23	42	18	36	15	41	17	32	16	27	32	32.9	
Englewood .....	33	24	41	32	35	20	22	18	18	12	20	6	26	4	38	14	30	15	41	24	37	16	20	12	37	20	32	17	17	14	27	32.9	
Newark .....	35	20	43	32	39	20	22	18	18	12	20	6	26	4	38	14	30	15	41	24	37	16	20	12	37	20	32	17	17	14	27	30.4	
New York, N. Y. ....	35	20	43	32	39	20	22	18	18	12	20	6	26	4	38	14	30	15	41	24	37	16	20	12	37	20	32	17	17	14	27	31.9	
Jersey City .....	35	20	43	32	39	20	22	18	18	12	20	6	26	4	38	14	30	15	41	24	37	16	20	12	37	20	32	17	17	14	27	31.7	
Bayonne .....	35	20	43	32	39	20	22	18	18	12	20	6	26	4	38	14	30	15	41	24	37	16	20	12	37	20	32	17	17	14	27	31.7	
Bergen Point .....	35	20	43	32	39	20	22	18	18	12	20	6	26	4	38	14	30	15	41	24	37	16	20	12	37	20	32	17	17	14	27	31.7	
Elizabeth .....	35	20	43	32	39	20	22	18	18	12	20	6	26	4	38	14	30	15	41	24	37	16	20	12	37	20	32	17	17	14	27	31.7	
Plainfield .....	35	20	43	32	39	20	22	18	18	12	20	6	26	4	38	14	30	15	41	24	37	16	20	12	37	20	32	17	17	14	27	31.7	
Southfield .....	35	20	43	32	39	20	22	18	18	12	20	6	26	4	38	14	30	15	41	24	37	16	20	12	37	20	32	17	17	14	27	31.7	
Summitville .....	35	20	43	32	39	20	22	18	18	12	20	6	26	4	38	14	30	15	41	24	37	16	20	12	37	20	32	17	17	14	27	31.7	
Plainfield .....	35	20	43	32	39	20	22	18	18	12	20	6	26	4	38	14	30	15	41	24	37	16	20	12	37	20	32	17	17	14	27	31.7	
New Brunswick .....	35	20	43	32	39	20	22	18	18	12	20	6	26	4	38	14	30	15	41	24	37	16	20	12	37	20	32	17	17	14	27	31.7	
College Farm .....	34	20	40	32	38	20	21	14	18	11	18	1	24	2	30	12	30	2	44	23	38	15	18	2	37	20	31	11	31	16	31	31.1	
Lambertville .....	37	25	42	33	39	23	27	20	14	20	5	26	2	30	12	30	2	44	23	38	15	18	2	37	20	31	11	31	16	31	31.1		
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<b>THE SOUTHERN INTERIOR.</b>																																	
Hightstown .....	34	28	38	32	40	23	25	15	21	14	19	5	24	0	29	9	33	9	43	21	42	2	26	1	32	12	30	19	37	15	30	31.9	
Trenton .....	32	28	36	30	36	16	27	10	22	9	19	4	25	11	22	12	32	19	30	19	45	27	37	15	22	8	32	12	30	19	37	36.2	
Imperial .....	33	28	38	32	40	23	25	15	21	14	19	5	24	0	29	9	33	9	43	21	42	2	26	1	32	12	30	19	37	15	30	31.9	
Lakewood .....	45	35	47	32	45	25	11	21	17	7	30	1	27	2	35	9	30	10	50	26	45	2	26	1	32	12	30	19	37	15	30	33.1	
Beverly .....	37	24	41	33	37	23	25	16	22	10	21	4	26	1	32	12	30	10	50	26	45	2	26	1	32	12	30	19	37	15	30	34.1	
Brown's Mills .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Moorestown .....	36	28	38	32	40	23	25	15	21	14	19	5	24	0	29	9	33	9	43	21	42	2	26	1	32	12	30	19	37	15	30	31.9	
Philadelphia, Pa. ....	38	27	40	34	44	24	26	13	25	12	22	14	22	14	22	12	32	19	30	19	45	27	37	15	22	8	32	12	30	19	37	34.4	
Toms River .....	35	27	39	33	41	25	25	16	22	10	21	4	26	1	32	12	30	10	50	26	45	2	26	1	32	12	30	19	37	15	30	33.5	
Indian Mills .....	34	28	40	32	38	25	16	22	10	21	4	26	1	32	12	30	10	50	26	45	2	26	1	32	12	30	19	37	15	30	31.9		
Clayton .....	35	20	37	32	40	25	12	20	12	21	9	26	1	32	12	30	10	50	26	45	2	26	1	32	12	30	19	37	15	30	31.9		
Tuckerton .....	36	31	43	33	40	25	18	20	20	9	26	1	32	12	30	10	50	26	45	2	26	1	32	12	30	19	37	15	30	31.9			
Friesburg .....	35	20	37	32	40	25	12	20	12	21	9	26	1	32	12	30	10	50	26	45	2	26	1	32	12	30	19	37	15	30	31.9		
Vineland .....	34	30	39	32	40	25	18	20	20	9	26	1	32	12	30	10	50	26	45	2	26	1	32	12	30	19	37	15	30	31.9			
Bridgeport .....	37	30	40	32	40	25	18	20	20	9	26	1	32	12	30	10	50	26	45	2	26	1	32	12	30	19	37	15	30	31.9			
Woodbine .....	35	20	37	32	40	25	12	20	12	21	9	26	1	32	12	30	10	50	26	45	2	26	1	32	12	30	19	37	15	30	31.9		
Cape May C. H. ....	36	33	39	32	40	25	20	31	17	24	16	30	5	39	16	37	14	47	22	43	26	26	9	33	10	39	33	29	24	43	26	37.6	
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<b>THE SEA COAST.</b>																																	
Oceanic .....	35	25	44	34	40	25	27	18	22	18	20	9	28	1	34	9	33	16	48	21	42	24	26	0	20	3	53	19	42	21	34	34.5	
Asbury Park .....	35	21	43	33	39	25	18	24	17	20	9	21	5	33	15	20	16	48	21	42	24	26	0	20	3	53	19	42	21	34	34.5		
Atlantic City .....	35	21	43	33	39	25	18	24	17	20	9	21	5	33	15	20	16	48	21	42	24	26	0	20	3	53	19	42	21	34	34.5		
Cape May City .....	34	32	42	33	43	24	31	18	31	18	20	12	26	8	34	20	33	16	48	21	42	24	26	0	20	3	53	19	42	21	34	33.9	
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	35.1	
.....	.....																																



# Total Monthly Precipitation, February, 1907



## Day of month.

T. Indicates amount too small to measure.



U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR MARCH, 1907.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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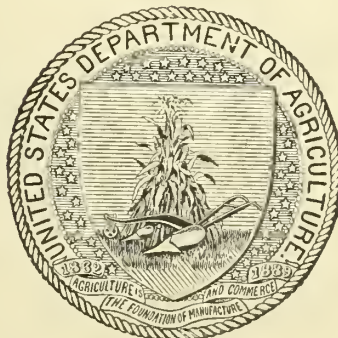
WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.  
WEATHER BUREAU OFFICE

APRIL 20, 1907

# Monthly Mean Isotherms and Prevailing Winds, March, 1907





U. S. DEPARTMENT OF AGRICULTURE,  
**CLIMATOLOGICAL SERVICE**  
 OF THE  
**WEATHER BUREAU.**

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,  
 LEVI A. JUDKINS, Section Director.

VOL. XX. ATLANTIC CITY, N. J., MARCH, 1907. No. 3.

### GENERAL SUMMARY.

During the first 12 days of March the temperature was almost constantly below the normal, an average deficiency of about  $3^{\circ}$  per day occurring. The rest of the month averaged much milder than usual, the monthly excess of about  $2^{\circ}$  in daily mean temperature being due principally to the phenomenally warm weather that prevailed during the greater part of the last decade. Exceptionally high maximum temperatures, ranging from  $72$  to  $88^{\circ}$ , occurred on the 23d and 29th, and the maximum record for the month was exceeded by  $1^{\circ}$  on the latter date. Minimum temperatures, ranging from  $-11$  to  $13^{\circ}$  in the extreme northern counties, and from  $8$  to  $18^{\circ}$  in the southern half of the State, were the lowest at a majority of stations on the 7th. The last minimum temperatures of  $32^{\circ}$ , or lower, of the month occurred on the 26th.

The precipitation during March was below the normal, but there was more than the usual amount of snow. The precipitation was well distributed thruout the district. A few small, scattered areas received amounts slightly in excess of 4 inches, but over practically the entire State the monthly amounts were between 2 and 4 inches. The most marked local deficiencies—more than 2 inches—occurred in portions of Hudson and Passaic counties, in the northeast. Over portions of Bergen, Essex, Middlesex, Morris and Warren counties, in the north, and Atlantic, Burlington and Cape May counties, in the south, the precipitation was about the normal.

About 38 per cent of the total precipitation occurred as snow. Most of the snow fell during the first decade (6th, 8th and 10th), the greatest 24-hour depths being on the 10th. The last snow of the month occurred on the 19th. In the more northerly counties the ground was covered with unusual depths of snow for the season during the greater part of the first and second decades, and there was sleighing on about 10 days. In southern New Jersey the ground was bare after the 15th.

The Hudson River in the vicinity of Jersey City was reported remarkably free from ice during the month, and the Delaware River became open from Warren County to tide water on the 16th.

At the close of the month the season was more advanced than usual, the last decade having been very favorable for outdoor work.

### TEMPERATURE.

The monthly mean,  $41.2^{\circ}$ , was  $2.2^{\circ}$  above the normal, and  $6.8^{\circ}$  above the mean for the corresponding month of 1906, and  $17.6^{\circ}$  above the mean for February, 1907.

The local departures from the normal temperature ranged from  $-1.3^{\circ}$ , at River Vale, to  $+3.9^{\circ}$ , at Vineland.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $38.6^{\circ}$ ; Red Sand Stone Plain,  $40.3^{\circ}$ ; Southern Interior,  $43.2^{\circ}$ ; Sea Coast,  $44.6^{\circ}$ .

The highest monthly mean was  $45.0^{\circ}$ , at Bridgeton, and the lowest,  $36.2^{\circ}$ , at River Vale.

The maximum was  $88^{\circ}$ , at Beverly, on the 29th, and the minimum,  $-11^{\circ}$ , at River Vale, on the 7th.

The range for the State was  $99^{\circ}$ , this being the greatest range on record for March.

The mean daily range was  $20^{\circ}$ .

The greatest local monthly range was  $91^{\circ}$ , at Layton, and the least,  $58^{\circ}$ , at Cape May.

The greatest daily range was  $44^{\circ}$ , at River Vale, on the 7th.

### PRECIPITATION.

The average (including melted snow), 3.04 inches, was 1.10 inches below the normal, and 2.05 inches below the average for the corresponding month of 1906.

The local departures from the normal ranged from  $-2.37$  inches, at Bergen Point, to  $+0.35$  of an inch, at Newark.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 2.91 inches; Red Sand Stone Plain, 3.22 inches; Southern Interior, 2.82 inches; Sea Coast, 3.19 inches.

The greatest monthly amount was 4.38 inches, at Englewood, and the least, 1.81 inches, at Pleasantville.

The greatest amount in 24 consecutive hours, or less, was 1.40 inches, at College Farm, on the 8th. No excessive precipitation occurred during the month.

The average number of days with a measurable amount was 10.

The greatest depth of snow for the month was 17.0 inches, at Englewood, New Brunswick and River Vale, and the least, 4.1 inches, at Cape May. The average depths for the various districts were as follows: The Highlands and Kittatinny Valley, 11.7 inches; Red Sand Stone Plain, 13.6 inches; Southern Interior, 9.1 inches; Sea Coast, 9.2 inches. The greatest 24-hour fall was 10.0 inches, at Asbury Park, on the 10th.

### SUNSHINE AND CLOUDINESS.

The average number of clear days was 13; partly cloudy, 10; cloudy, 8. At Atlantic City the duration of sunshine was 64 per cent of the possible amount, and at Jersey City (estimated), 57 per cent. Sunshine averaged about 10 per cent above the normal.

### WIND.

The prevailing direction was northwest; averaged hourly velocity for the State, 10.7 miles. At Atlantic City the total movement was 6,760 miles; average hourly velocity, 9.1 miles; highest velocity, 35 miles per hour, from the northeast, on the 24th. At Jersey City the total movement was 7,930 miles; average hourly velocity, 10.7 miles; highest velocity, 55 miles

per hour, from the northwest, on the 20th. High winds were reported on the 3d, 6th, 17th-20th, 24th, and 25th.

#### MISCELLANEOUS PHENOMENA.

*Meteor.*—Bayonne, 25.

*Auroras.*—Moorestown, 11, 12; Newark, 1; Rancocas, 11.

*Halos, lunar.*—Atlantic City, 20; Asbury Park, 22; Bayonne, 26; Bergen Point, 19, 26; Cape May, 26; Inlaystown, 5; Indian Mills, 20; Jersey City, 26; Moorestown, Rancocas, Vineland, 20; Trenton, 18, 26.

*Halos, solar.*—Atlantic City, 9, 12; Bayonne, 9; Cape May C. H., 9, 17; Inlaystown, 9, 22; Indian Mills, 9, 29; Jersey City, 9; Moorestown, 7, 9, 14, 19; New Brunswick, 9; Rancocas, 9, 12, 13, 29; Vineland, 9, 26.

*Sleet.*—Atlantic City, Beverly, Phillipsburg, 19; Bergen Point, Lambertville, Somerville, 2; Asbury Park, Bridgeton, Clayton, 8; Englewood, Jersey City, 12; Moorestown, Rancocas, 8, 19; Newark, 1; Vineland, Woodbine, 10, 19.

*Thunderstorms* (dates and number of reports).—2d, 5; 13th, 8; 19th, 24; 20th, 7; 21st, 1; 22d, 1; 27th, 1. Thunderstorms occurred at Weather Bureau stations as follows: Atlantic City, 2, 19, 20; Cape May, 13, 19, 21. Total number of reports, 53.

*Fog.*—Atlantic City, 13, 14, 19; Asbury Park, 2, 13, 14, 28, 29; Bayonne, 13, 14, 29; Bergen Point, 2, 13, 14, 29; Beverly, Hightstown, 13, 14, 23, 29; Cape May, 2, 13, 14, 19, 23, 27-29; Jersey City, 2, 13, 14; Lambertville, 14; Moorestown, 13, 14, 19, 29; Newark, 2, 14; Oceanic, Phillipsburg, 13, 14; Paterson, 13, 14, 30; Rancocas, 1, 2, 12, 13, 19, 22, 29; Somerville, 1, 2, 13, 14; Trenton, 12, 13, 14, 29.

#### CLIMATOLOGY OF CAPE MAY C. H., NEW JERSEY—CONCLUDED.

##### MONTHLY AND ANNUAL PRECIPITATION.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1890.....	3.11	4.33	2.99	4.09	1.58	3.89	3.52	4.80	4.58	10.52	4.43	.....	
1891.....	*6.16	*6.34	6.39	2.50	3.54	1.24	7.33	4.02	1.83	5.57	2.51	2.25	49.68
1892.....	3.33	2.24	*7.09	4.41	5.47	2.43	4.77	2.79	1.60	10.67	*5.85	2.58	43.23
1893.....	3.57	3.99	4.28	*5.75	2.76	2.52	1.26	4.89	5.14	2.04	2.74	3.15	42.09
1894.....	2.52	4.33	11.19	2.64	*7.78	2.44	1.98	3.42	*7.86	*6.53	2.15	1.97	44.81
1895.....	3.93	1.45	3.95	5.24	3.31	10.97	2.49	2.20	0.73	2.24	2.56	2.43	31.50
1896.....	11.19	4.82	5.21	10.98	2.23	4.46	5.55	10.93	2.70	3.52	2.05	11.15	34.50
1897.....	2.92	6.12	2.57	3.36	2.50	2.80	*9.98	2.37	10.55	5.93	3.40	3.92	46.42
1898.....	3.71	1.80	3.02	4.21	6.70	2.30	3.59	4.22	2.12	3.99	4.99	2.67	43.32
1899.....	3.14	6.10	5.07	1.76	2.06	1.01	4.60	2.38	2.88	4.62	1.81	1.66	37.09
1900.....	3.38	4.74	2.98	2.34	3.63	3.00	11.11	1.48	1.09	2.05	1.82	3.29	30.31
1901.....	3.34	10.93	3.54	4.75	4.01	2.09	3.27	5.37	3.75	0.96	2.58	5.32	39.91
1902.....	3.12	5.55	4.47	3.00	1.94	*5.88	1.83	2.64	6.09	5.37	4.11	*6.34	50.34
1903.....	3.81	5.36	6.34	2.68	1.32	2.39	8.60	*9.05	3.63	5.36	2.03	3.40	*53.97
1904.....	1.59	1.62	2.89	3.33	11.20	3.80	3.92	2.71	0.98	1.67	1.48	5.02	130.21
1905.....	3.80	2.81	3.00	3.91	3.71	1.67	4.12	8.31	3.05	1.39	0.89	4.43	41.09
1906.....	2.72	3.39	5.67	1.54	3.52	4.76	4.24	6.92	2.46	3.76	1.71	3.64	44.33
M'ns	3.28	3.77	4.23	3.26	3.52	2.67	4.27	3.95	3.02	3.54	2.54	3.39	41.44

\* Greatest on record.

† Least on record.

Greatest monthly amount, 9.98 inches, July, 1897.

Least monthly amount, 0.52 of an inch, November, 1890.

Number of months, February, 1890, to December, 1906, with precipitation less than 1 inch, 11; less than 2 inches, 43; more than 8 inches, 4.

Total precipitation for the wettest winter, 1890-1, 16.93 inches; for the wettest spring, 1892, 16.97 inches; for the wettest summer, 1903, 20.04 inches; for the wettest autumn, 1894, 16.54 inches.

Total precipitation for the driest winter, 1903-4, 6.61 inches;

for the driest spring, 1904, 7.42 inches; for the driest summer, 1900, 5.59 inches; for the driest autumn, 1904, 4.13 inches.

Greatest 24-hour rainfall, 4.50 inches, September 19-20, 1894.

Longest rainy period, August 22 to 31, 1906, 10 days; total amount, 5.00 inches.

Longest periods without measurable rain, October 16 to November 11, 1901, 27 days, and April 27 to May 22, 1903, 26 days.

Average annual number of days with measurable rain, 101.

*Snowfall.*—(1895 to 1906): Average annual amount, 20 inches.

Greatest annual amount, 44 inches, 1899.

Least annual amount, 7 inches.

Greatest monthly amount, 33 inches, February, 1899.

Greatest winter amount, 45.5 inches, winter of 1904-5.

Least winter amount, 1.3 inches, winter of 1897-8.

#### SUNSHINE AND CLOUDINESS.

Average annual number of clear days, 155; partly cloudy, 99; cloudy, 111.

#### WIND.

Prevailing direction for summer, southwest; for winter, northwest; for the year, northwest.—L. A. J.

#### CORRECTIONS.

December, 1906, Report. —Brown's Mills, page 93, precipitation data, omitted, should be: Total, 2.81 inches; greatest in 24 hours, 1.09 inches; total snowfall, 0.5 of an inch; number of rainy days, 10.

#### DELAYED REPORT.

Toms River, January, 1907.—Mean temperature, 34.0°; departure from the normal, +3.1; highest, 75°, 7th; lowest, zero, 24th; greatest daily range, 39°. Total precipitation, 4.42 inches; departure from the normal, +0.91 of an inch; greatest in 24 hours, 1.20 inches; total snowfall, 12.0 inches; number of rainy days, 11; clear, 10; partly cloudy, 2; cloudy, 19; prevailing wind direction, northwest.

#### COMPARATIVE STATE DATA FOR MARCH.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1887.....	37.7	61	8	3.34
1888.....	32.8	72	-4	5.71
1889.....	40.5	70	19	3.79
1890.....	37.6	77	0	6.08
1891.....	37.2	68	4	5.06
1892.....	34.4	65	6	4.75
1893.....	37.0	69	5	3.73
1894.....	44.2	83	12	1.77
1895.....	36.7	72	7	3.10
1896.....	34.0	70	-8	5.34
1897.....	40.0	77	8	2.78
1898.....	45.1	77	16	3.33
1899.....	38.6	73	13	6.54
1900.....	35.6	67	-9	3.51
1901.....	39.2	75	-8	4.64
1902.....	43.9	77	0	4.34
1903.....	47.6	79	13	5.13
1904.....	37.2	72	1	3.43
1905.....	39.8	87	-7	3.95
1906.....	34.4	62	-15	5.09
1907.....	41.2	88	-11	3.04



## CLIMATOLOGICAL DATA FOR MARCH, 1907.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.		Number cloudy days.	Prevailing direction of wind.
THE HIGHLANDS & KITTATINNY VAL.																				
Layton.....	Sussex.....	550	8	36.4	+0.9	82	20	-9	7	40	2.50	-1.62	0.97	9.3	8	23	3	5	n.	Warren C. Hursh.
Sussex.....	do.....	442	13	38.8	+2.3	83	20	-3	7	34	2.37	-1.63	0.70	12.0	9	15	10	6	w.	Prof. W. H. Seelye.
Newton.....	do.....	678	27	38.2	+2.3	77	20	5	7	36	2.84	-2.05	0.42	10.0	9	15	7	9	.....	Brice Bowman.
Charlotteburg.....	Passaic.....	719	15	38.2	+2.3	77	20	5	7	36	2.41	-2.05	0.42	10.0	9	15	7	9	sw.	G. S. Briggs.
Pompton Plains.....	Morris.....	195	4	38.2	+2.3	77	20	5	7	36	2.41	-2.05	0.42	10.0	9	15	7	9	sw.	River & Flood Service.
Roomton.....	do.....	413	8	38.2	+2.3	77	20	5	7	36	2.41	-2.05	0.42	10.0	9	15	7	9	sw.	River & Flood Service.
Dover.....	do.....	413	8	38.2	+2.3	77	20	5	7	36	2.41	-2.05	0.42	10.0	9	15	7	9	sw.	River & Flood Service.
Belvidere.....	Warren.....	575	23	37.4	+2.3	77	20	5	7	32	3.31	-0.66	0.78	13.0	11	1	17	13	.....	William C. Harris.
Phillipsburg.....	do.....	289	17	40.4	+2.8	84	20	5	7	37	3.22	-0.81	0.59	9.5	8	18	6	7	.....	Samuel J. Hixson.
District averages.....		196	5	40.6	+3.7	85	29	11	7	31	3.16	-0.28	0.77	13.7	11	16	5	10	nw.	D. W. Smith.
				38.6	+2.7						2.91	-1.09		11.7	10	15	8	8	nw.	
THE RED SAND STONE PLAIN.																				
Milwah.....	Bergen.....	70	4	36.2	-1.3	78	29	-11	7	44	2.81	.....	0.73	16.7	13	.....	.....	.....	w.	River & Flood Service.
River Vale.....(a)	do.....	70	10	36.2	-1.3	78	29	-11	7	44	2.81	.....	0.73	16.7	13	.....	.....	.....	nw.	G. S. M. Holdrum.
Paterston.....	Passaic.....	110	31	41.8	+3.1	79	23	10	7	32	3.05	-1.68	0.56	14.5	10	9	18	4	nw.	H. A. Probert.
Englewood.....	Bergen.....	135	17	39.3	+1.2	72	29	13	7	27	4.38	0.00	1.07	17.0	15	9	9	13	nw.	William C. Tucker.
Little Falls.....	Passaic.....	175	4	39.3	+1.2	72	29	13	7	27	4.38	0.00	1.07	17.0	15	9	9	13	nw.	River & Flood Service.
South Orange.....	Essex.....	200	38	40.0	+3.6	75	23	13	7	27	3.39	-0.62	0.87	12.0	10	5	17	9	nw.	W. J. Chandler, M. D.
Chatham.....	Morris.....	234	4	40.0	+3.6	75	23	13	7	27	3.39	-0.62	0.87	12.0	10	5	17	9	nw.	River & Flood Service.
Newark.....	Essex.....	140	65	40.6	+2.2	78	23	10	7	31	4.31	+0.35	1.17	13.2	15	6	13	12	sw.	Wm. Wiener.
New York, N. Y.....	New York.....	314	37	40.8	+3.3	75	23	16	7	25	3.80	-0.28	1.03	13.8	15	10	10	11	nw.	U. S. Weather Bureau.
Jersey City.....	Hudson.....	15	2	41.0	.....	79	23	13	7	28	3.55	.....	0.85	14.6	14	12	6	13	sw.	Samuel K. Pearson, Jr.
Bayonne.....	do.....	50	17	39.6	+0.4	77	23	11	7	29	3.37	-0.82	0.69	13.0	14	12	6	13	sw.	John H. Eadie.
Bergen Point.....(a)	do.....	37	10	40.0	0.0	78	23	14	7	32	2.39	-2.37	0.50	12.0	9	8	17	6	sw.	Dr. W. H. Mitchell.
Elizabeth.....	Union.....	33	28	41.0	+2.9	76	23	14	7	30	3.08	-1.32	0.68	13.0	10	20	7	4	.....	W. M. Oliver.
Plainfield.....	do.....	100	17	40.0	+1.4	79	23	12	7	33	3.17	-1.19	0.70	12.5	13	9	12	10	sw.	John Neagle.
Somerville.....	Somerset.....	76	28	40.6	+2.4	80	23	9	7	40	2.72	-1.38	0.60	13.5	11	13	6	12	nw.	Peter Hardcastle.
Flemington.....	Hunterdon.....	187	10	40.4	+0.1	83	29	8	12	38	3.52	-0.88	0.64	12.0	13	16	8	7	e.	H. E. Deats.
New Brunswick(b)	Middlesex.....	61	54	39.6	+1.5	79	23	5	7	34	4.15	+0.29	1.10	17.0	8	22	3	6	w.	Wm. T. Voerner.
College Farm.....	do.....	100	12	40.4	+0.1	79	23	5	7	36	3.29	-0.79	1.40	12.5	10	15	9	7	n.	Miss J. A. Voorhees.
Lambertville.....	Hunterdon.....	95	21	42.0	+3.3	87	29	11	7	37	3.10	-0.93	0.71	12.5	11	17	6	8	nw.	William R. Bowne.
District averages.....				40.3	+1.6						3.22	-0.89		13.6	12	12	10	9	nw.	
THE SOUTHERN INTERIOR.																				
Hightstown.....	Mercer.....	85	16	40.4	-0.2	81	29	10	7	34	3.41	-0.62	1.01	8.0	8	16	7	8	sw.	Ernst Wenger.
Trenton.....	do.....	60	38	43.8	+1.4	83	29	16	7	30	2.65	-1.71	0.68	6.0	7	14	21	6	nw.	E. R. Cook.
Imlaystown.....	Monmouth.....	106	21	41.2	+1.6	84	29	10	7	37	2.58	-1.82	0.71	8.3	10	15	10	6	sw.	F. C. Price, M. D.
Lakewood.....	Ocean.....	54	7	43.1	+1.8	80	25	10	7	39	2.93	-1.25	0.80	10.0	7	18	7	6	nw.	C. A. Roe.
Beverly.....	Burlington.....	30	23	42.4	+2.4	88	29	11	7	36	2.98	-1.28	0.71	9.8	12	7	17	7	w.	C. F. Richardson.
Rancocas.....(f)	do.....	68	22	42.4	+2.4	86	29	14	7	39	3.91	-0.23	0.90	12.3	11	15	6	10	nw.	Spencer Haines.
Brown's Mills.....	do.....	71	2	42.4	+2.4	86	29	14	7	39	3.91	-0.23	0.90	12.3	11	15	6	10	nw.	F. J. Miller.
Moorestown.....	do.....	71	43	42.0	+3.7	86	29	11	7	36	2.66	-1.11	0.75	13.0	12	11	12	8	nw.	John C. Beas.
Philadelphia, Pa.....	Philadelphia.....	117	37	44.1	+1.0	86	29	18	7	32	2.81	-0.65	0.72	8.6	15	10	13	8	nw.	U. S. Weather Bureau.
Toms River.....	Ocean.....	33	16	43.3	+0.5	84	29	9	7	42	2.93	-1.72	0.98	12.4	11	14	12	5	sw.	F. G. Bunnell.
Indian Mills.....	Burlington.....	76	7	43.3	+0.5	84	29	9	7	42	2.93	-1.72	0.98	12.4	11	14	12	5	sw.	James Armstrong.
Clayton.....	Gloucester.....	126	11	43.6	+1.5	87	29	12	12	37	2.60	-1.34	0.90	11.0	7	19	7	5	sw.	Wm. T. Farley.
Tuckerton.....	Ocean.....	23	10	41.8	+0.9	80	23	8	7	36	3.06	-1.50	0.80	9.0	9	10	14	7	sw.	F. R. Austin.
Friesburg.....	Salem.....	100	15	43.8	+1.5	85	29	14	7	41	2.70	-1.04	0.70	7.6	11	5	23	3	s.	H. C. Perry.
Vineland.....	Cumberland.....	118	40	41.0	+3.9	85	29	12	12	41	2.44	-1.85	0.72	7.8	12	14	12	5	nw.	Alfred Chalmers.
Canton.....	Salem.....	24	6	41.0	+3.9	85	29	12	12	41	2.44	-1.85	0.72	7.8	12	14	12	5	.....	J. H. Maskell.
Bridgeton.....	Cumberland.....	30	21	45.0	+2.6	85	29	15	7	40	3.66	-1.14	0.92	8.5	10	17	4	10	sw.	Henry A. Jorden.
Pleasantville.....	Atlantic.....	26	10	45.0	+2.6	85	29	15	7	40	3.66	-1.14	0.92	8.5	10	17	4	10	.....	L. Van Gilder.
Woodbine.....(f)	Cape May.....	43	16	44.2	+3.0	81	23	12	12	39	3.85	-0.26	1.11	8.0	7	23	6	2	w.	Arthur R. Merrill.
Cape May C. H.....	do.....	19	20	44.8	+3.2	81	23	15	7	40	3.96	-1.20	0.80	1.07	9	9	14	8	nw.	L. T. Garretson.
District averages.....				43.2	+2.3						2.82	-1.28		9.1	10	13	11	7	nw.	
THE SEA COAST.																				
Oceanic.....	Monmouth.....	16	21	41.4	+1.9	78	23	16	7	34	3.32	-1.18	0.68	10.5	9	10	14	7	se.	Rev. S. W. Knipe.
Asbury Park.....	do.....	22	19	40.4	+1.0	76	23	13	7	38	3.19	-1.42	1.00	14.0	8	14	7	10	s.	B. H. Obert.
Atlantic City.....	Atlantic.....	16	32	41.8	+3.0	79	23	16	7	31	3.52	-0.22	1.00	8.3	11	7	13	11	sw.	Section Center.
Cape May City.....	Cape May.....	17	14	42.8	+2.0	76	23	18	7	30	2.74	-1.64	0.67	4.1	13	7	18	6	s.	U. S. Weather Bureau.
District averages.....				41.6	+2.0						3.19	-1.12		9.2	10	10	13	8	s.	

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

† Received late; not considered in averages.

Incomplete.

[illegible]

temperatures below zero appear in boldface figures.



# Total Monthly Precipitation, March, 1907



## Day of month.

† Incomplete.



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U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR APRIL, 1907.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

---

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF

WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.

WEATHER BUREAU OFFICE

MAY 22, 1907

# Monthly Mean Isotherms and Prevailing Winds, April, 1907.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XX. ATLANTIC CITY, N. J., APRIL, 1907. No. 4.

## GENERAL SUMMARY.

An average deficiency in daily mean temperature of about 5° occurred during the first two decades of April, 1907. During the latter part of the third decade the temperature averaged about the normal, resulting in a slight reduction in the amount of the deficiency at the close of the month. The mean temperature is, however, the lowest reported for April in a period of 31 years, being only 1° higher than a mean for April, 1875, computed from the records of 12 well distributed stations. Freezing temperature at night, with destructive frosts, occurred with great frequency from the 1st to the 22d, inclusive; after the latter date freezing temperature occurred only in the extreme northern counties. The maximum temperature in the interior, on the 25th and 26th, ranged from 72° to 83°; at stations on the coast the maximum temperature was generally less than 70°. The minimum temperature, occurring on the 2d, ranged from 19° to 27°.

The precipitation during the month was above the normal over the northeastern and most of the southern counties; in the northwestern and the north-central portions of the district a slight deficiency occurred, the total precipitation ranging from 2.00 to about 3.50 inches. The rainfall over the eastern counties exceeded 4 inches, as a rule. More than the usual amount of snow fell during the month (on the 1st, 9th and 19th), but the depths on the ground disappeared rapidly.

A high wind, on the 24th, demolished a portion of a factory, at Millville, N. J., causing the death, under the wreckage, of three persons. Lightning struck a residence at Vineland, N. J., on the 23d, and the building was destroyed by fire.

The month was unfavorable for the usual outdoor work of the season.

## TEMPERATURE.

The monthly mean, 45.2°, was 4.5° below the normal, and 1.0° below the mean for the corresponding month of 1906; it was only 4.0° higher than the mean for March, 1907.

The local departures from the normal temperature ranged from -6.2°, at Dover, to -3.3°, at Somerville.

The means for the various districts were as follows: The Highlands and Kittatinny Valley, 43.2°; Red Sand Stone Plain, 5.3°; Southern Interior, 46.2°; Sea Coast, 44.1°.

The highest monthly mean was 47.7°, at Bridgeton, and the west, 41.1°, at Dover.

The range of monthly mean temperature was 6.6°.

The maximum was 83°, at Beverly and Indian Mills, on the 26th, and the minimum, 19°, at Charlotteburg, Layton and Newton, on the 2d.

The range for the State was 64°.

The mean daily range was 19.6°.

The greatest local monthly range was 60°, at Rancocas, and the least, 40°, at Atlantic City.

The greatest daily range was 47°, at Layton and River Vale, on the 25th. The range at more than one-half of the number of stations exceeded 40° on the 25th.

## PRECIPITATION.

The average (including melted snow), 3.78 inches, was 0.44 of an inch above the normal, and 0.14 of an inch above the average for the corresponding month of 1906.

The local departures from the normal ranged from -1.23 inches, at College Farm, to +5.16 inches, at Woodbine.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 2.95 inches; Red Sand Stone Plain, 3.81 inches; Southern Interior, 4.09 inches; Sea Coast, 3.94 inches.

The greatest monthly amount was 8.67 inches, at Woodbine, and the least, 2.06 inches, at Layton.

The greatest amount in 24 consecutive hours, or less, was 1.96 inches, at Toms River, on the 7th-8th. No excessive precipitation occurred during the month.

The average number of days with a measurable amount was 11.

The greatest depth of snow for the month was 9.0 inches, at Indian Mills. The average depths for the various districts were as follows: The Highlands and Kittatinny Valley, 4.1 inches; Red Sand Stone Plain, 5.2 inches; Southern Interior, 4.1 inches; Sea Coast, 5.3 inches. The greatest 24-hour fall was 6.5 inches, at Oceanic, on the 9th.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 11; partly cloudy, 9; cloudy, 10. At Atlantic City the duration of sunshine was 51 per cent of the possible amount (slightly below the normal), and at Jersey City (estimated), 47 per cent.

## WIND.

The prevailing direction was northwest. At Atlantic City the total movement was 7,660 miles; average hourly velocity 10.6 miles; highest velocity, 33 miles per hour, from the northeast, on the 9th. High winds were reported on the 1st, 2d, 6th, 7th, 9th, 10th, 14th, 15th, 17th, 18th, 20th, 21st, 24th, and 25th.

## MISCELLANEOUS PHENOMENA.

*Meteor.*—Beverly, 29.

*Halos, solar.*—Atlantic City, Cape May C. H., 22; Indian Mills, 6, 18, 22; Jersey City, 14, 27; Moorestown, 6, 27; Plainfield, 6; Rancocas, 27.

*Halos, lunar.*—Atlantic City, 18; Bayonne, Beverly, Oceanic, Plainfield, 22; Bergen Point, 23, 25; Jersey City, 22, 25; Moorestown, Vineland, 25; Newark, 24.

*Sleet.*—Asbury Park, Moorestown, 19; Bayonne, Jersey City,

Paterson, 8; Beverly, Cape May C. H., Flemington, Vineland, 7; Bridgeton, 1, 9; Cape May, 6; Dover, 9; Layton, 13; Newark, 8, 19; Rancocas, Sussex, 9, 19.

*Thunderstorms* (dates and number of reports).—8th, 2; 23d, 19; 24th, 6; 26th, 22; 27th, 4; 30th, 1. Thunderstorms occurred at Weather Bureau stations as follows: Atlantic City, 23d, 26th; Cape May, 23d. Total number of reports, 57.

*Fog*.—Atlantic City, Cape May, 8, 23, 28, 29, 30; Asbury Park, 23, 28, 29, 30; Bayonne, Canton, Indian Mills, Jersey City, Lambertville, Newark, Oceanic, Paterson, Somerville, Trenton, Vineland, 29, 30; Bergen Point, 23; Beverly, Hightstown, 30; Cape May C. H., Plainfield, Rancocas, 29; Tuckerton, 28, 29; Toms River, 28, 29, 30.

#### TEMPERATURE DATA FOR ATLANTIC CITY, N. J.

##### MONTHLY AND ANNUAL MEAN TEMPERATURES.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1874.	36	34	39	42	56	69	71	69	68	55	44	36	52
1875.	26	26	35	43	55	65	74	72	64	54	41	35	49
1876.	37	34	36	46	56	69	74	74	65	52	45	42	51
1877.	29	36	37	47	57	67	72	75	67	59	47	40	53
1878.	33	36	43	53	59	65	73	72	68	57	44	32	53
1879.	28	29	39	45	59	66	70	71	63	51	43	40	51
1880.	41	38	40	49	63	70	73	72	67	55	41	29	53
1881.	27	30	38	45	58	65	74	72	73	61	48	41	53
1882.	33	37	41	47	53	67	73	72	69	60	42	33	52
1883.	29	35	34	45	57	67	73	70	65	55	46	37	51
1884.	29	37	38	47	59	66	71	71	70	58	46	38	52
1885.	32	26	32	47	55	66	74	73	65	56	46	37	51
1886.	30	30	38	48	56	65	72	71	69	58	47	33	52
1887.	31	37	36	47	60	67	76	72	64	56	44	37	52
1888.	30	33	34	47	56	68	70	72	65	51	47	36	51
1889.	38	30	39	49	59	66	72	69	64	52	47	44	52
1890.	42	41	38	48	57	69	71	71	66	56	46	34	53
1891.	35	39	37	49	57	66	69	72	69	55	44	42	53
1892.	33	35	35	46	57	68	70	74	66	55	44	32	51
1893.	23	32	36	47	56	67	72	72	65	57	45	37	51
1894.	37	34	44	48	60	67	70	70	69	57	43	38	53
1895.	32	25	38	47	56	69	70	73	70	52	48	39	52
1896.	32	34	36	49	63	67	73	72	66	54	50	35	52
1897.	31	35	41	48	58	66	72	72	67	57	46	38	53
1898.	36	35	44	47	56	67	73	74	68	58	44	36	53
1899.	33	27	39	47	58	69	70	71	66	58	46	37	52
1900.	35	32	37	49	59	68	73	76	70	60	50	37	54
1901.	34	28	40	46	55	66	75	74	68	56	41	35	51
1902.	31	29	42	48	58	65	72	71	66	59	52	36	52
1903.	34	36	45	50	60	63	73	70	66	58	42	32	52
1904.	27	26	38	46	59	66	72	72	67	54	42	32	50
1905.	30	26	40	48	59	66	73	72	67	58	44	39	52
1906.	38	33	37	50	59	69	71	76	71	57	45	36	54
M'ns	32	33	38	47	58	67	72	72	67	56	45	36	52

\* Highest on record.

† Lowest on record.

#### MISCELLANEOUS TEMPERATURE DATA.

Average maximum, 58.6°; average minimum, 45.4°.

Highest annual mean, 53.8°, 1900; lowest annual mean, 49.1°, 1875; range of annual mean temperature, 4.7°.

Highest monthly mean, 76.5°, July, 1887; lowest monthly mean, 22.9°, January, 1893; range of monthly mean temperature, 53.6°.

Highest temperature, 99°, July 13, 1880, and July 18, 1905. Lowest temperature, -7°, December 30, 1880, and February 10, 1899.

Range of temperature, 106°.

Greatest annual range, 106°, 1880; least annual range, 77°, 1891.

Greatest monthly range, 63°, March, 1907; least monthly range, 21°, August, 1875, and July, 1906.

Average number of days per year with maximum temperature 32°, or below, 16; 90°, or above, 2.

Number of years, 1874-1906, with maximum temperature less than 90°, 5; less than 95°, 23.

Average number of days per year with minimum temperature 32°, or below, 84; zero, or below, 1.

Number of years, 1874-1906, without zero temperature, 22.

Actual number of days, 1874-1906, with minimum temperature zero, or below, 20.

Average temperature for winter, 34°; spring, 48°; summer, 71°; autumn, 57°.

Mean temperature for the mildest winter, 1889-90, 42°; for the mildest spring, 1878, 52°; for the warmest summer, 1900, 72°; for the warmest autumn, 1881, 60°.

Mean temperature for the coldest winter, 1903-4, 29°; for the coldest spring, 1875, 44°; for the coolest summer, 1903, 69°; for the coolest autumn, 1875, 53°.

Average date of last killing frost in spring, April 11; of first killing frost in autumn, November 4; length of the season, 172 days.

Earliest date on which first killing frost occurred in autumn, October 1; latest date in spring, April 25.

Earliest date on which first temperature of 32°, or lower, occurred in autumn, October 10 (1888); latest in spring, April 30 (1874).

#### CORRECTIONS.

February, 1907, Report.—Charlotteburg, page 13, total precipitation, published 2.84 inches, should read 2.44 inches; departure from the normal, published -1.70 inches, should be -2.10 inches; total snowfall, published 23.0 inches, should be 21.0 inches; page 16, the amount for the 1st, published .40, should be \*, and the total should be 2.44 inches.

College Farm, page 13, total precipitation, published 2.55 inches, should be 2.25 inches; departure from the normal, published -1.06 inches, should be -1.36 inches; total snowfall, published 24.5 inches, should be 20.5 inches; page 16, the amount for the 1st, published .48, should be .18, and the total should be 2.25 inches.

March, 1907, Report.—“Climatology of Cape May C. H., New Jersey,” page 20, column 2, the 12th line should read: “Least annual amount, 7 inches, 1898.”

#### DELAYED REPORTS.

Newton, March, 1907.—Mean temperature, 38.3°; departure from the normal, +3.3°; highest, 82°, 29th; lowest, -1°, 7th; greatest daily range, 36°. Total precipitation, 2.56 inches; departure from the normal, -1.17 inches; greatest in 24 hours 0.57 of an inch; total snowfall, 10.0 inches; number of rainy days, 12; clear, 17; partly cloudy, 6; cloudy, 8; prevailing wind direction, north.

Toms River, March, 1907.—Mean temperature, 40.6°; departure from the normal, +1.1°; highest, 80°, 22d; lowest, 6°, 7th; greatest daily range, 43°. Total precipitation, 2.30 inches; departure from the normal, -2.25 inches; greatest in 24 hours 1.20 inches; total snowfall, 15.5 inches; number of rainy days 5; clear, 18; partly cloudy, 5; cloudy, 8; prevailing wind direction, southwest.

#### COMPARATIVE STATE DATA FOR APRIL.

Year.	Temperature.			Average precipitation
	Mean.	Highest.	Lowest.	
1887.....	47.3	87	16	2.70
1888.....	47.9	92	22	3.28
1889.....	51.2	83	25	5.32
1890.....	50.4	86	21	2.65
1891.....	52.0	88	20	2.19
1892.....	49.3	87	19	2.49
1893.....	49.2	82	19	5.41
1894.....	50.3	88	10	3.09
1895.....	49.1	89	19	4.88
1896.....	52.4	98	12	1.35
1897.....	50.4	89	17	3.79
1898.....	47.8	81	13	3.74
1899.....	49.9	88	18	1.73
1900.....	50.8	82	17	2.29
1901.....	48.3	89	23	6.31
1902.....	50.2	93	20	3.62
1903.....	50.9	92	18	3.97
1904.....	46.7	85	16	3.42
1905.....	49.9	84	18	2.88
1906.....	51.2	87	17	3.64
1907.....	45.2	83	19	3.78



## CLIMATOLOGICAL DATA FOR APRIL, 1907.

Stations	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.					Sky.				Prevailing direction of wind.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.		
THE HIGHLANDS & KITTATINNY VAL.																				
Layton	Sussex	550	8	42.0	-4.4	74	25	19	2	47	2.06	-1.22	0.72	5.5	9	17	5	8	n.	Warren C. Hursh.
Sussex	do	442	13	43.4	-5.5	74	25	21	2	42	2.67	-0.53	0.92	4.0	8	14	10	6	nw.	Prof. W. H. Secley.
Newton	do	678	27	43.5	-4.7	76	25	19	2	45	2.55	-0.43	...	3.5	11	14	7	9	sw.	Brice Bowman.
Charlotteburg	Passaic	719	15	42.3	-4.4	73	25	19	2	44	3.47	-0.54	1.45	...	8	15	8	7	nw.	G. S. Briggs.
Pompton Plains (f).	Morris	195	4	...	...	...	...	...	...	...	3.66	...	1.06	7.4	12	...	...	...	nw.	River & Flood Service.
Boonton	do	413	8	...	...	...	...	...	...	...	3.40	-0.28	1.02	5.6	14	...	...	...	nw.	River & Flood Service.
Dover	do	575	23	41.1	-6.2	72	*25	20	2	41	3.82	+0.50	0.95	3.6	11	3	13	14	...	William C. Harris.
Belvidere	Warren	289	17	45.3	-1.2	77	*25	22	2	43	2.90	-0.07	1.38	2.5	7	15	5	10	...	Samuel J. Hixson.
Phillipsburg	do	196	5	45.2	-1.2	78	*25	22	2	43	2.75	-0.33	1.07	4.2	13	11	8	11	nw.	D. W. Smith.
District averages.				43.2	-4.9						2.95	-0.23	...	4.1	10	13	8	9	nw.	
THE RED SAND STONE PLAIN.																				
Mahwah	Bergen	70	16	42.8	-5.1	75	25	20	3	47	4.20	+0.70	0.80	6.0	12	15	5	10	nw.	River & Flood Service.
River Vale	do	110	31	46.8	-3.9	78	25	25	2	39	3.78	+0.39	1.08	2.6	13	5	16	9	nw.	G. S. M. Holdrum.
Paterson	Passaic	135	17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	sw.	H. A. Probert.
Englewood	Bergen	175	4	...	...	...	...	...	...	...	3.59	...	0.91	5.0	13	...	...	...	n.	William C. Tucker.
Little Falls	Passaic	200	38	44.6	-3.5	77	26	23	2	37	3.80	-0.38	0.96	4.5	10	7	11	12	nw.	River & Flood Service.
South Orange	Essex	234	4	...	...	...	...	...	...	...	4.06	...	0.99	5.7	13	...	...	...	n.	W. J. Chandler, M. D.
Chatham	Morris	140	65	45.4	-4.2	76	25	23	2	35	5.89	+2.33	1.21	5.8	13	4	11	15	nw.	River & Flood Service.
Newark	Essex	314	37	45.0	-3.1	73	25	26	2	31	3.89	+0.52	0.97	6.1	15	8	11	14	nw.	Wm. Wiener.
New York, N. Y.	New York	15	2	46.2	...	77	25	25	2	35	4.64	...	1.05	7.6	13	6	12	12	nw.	U. S. Weather Bureau.
Jersey City	Hudson	50	17	44.9	-5.0	76	25	25	2	37	3.97	+0.72	1.05	5.5	12	10	8	12	nw.	Samuel K. Pearson, Jr.
Bayonne	do	37	10	44.5	-5.4	74	26	23	1	26	4.77	+0.75	1.03	7.0	13	3	20	7	nw.	Dr. W. H. Eadie.
Bergen Point	do	33	28	47.0	-3.7	80	26	25	2	32	4.71	+1.24	1.12	...	13	17	5	8	nw.	John H. Mitchell.
Elizabeth	Union	100	17	44.9	-4.5	79	26	23	2	42	3.10	-0.83	0.85	4.9	12	8	10	12	nw.	W. M. Oliver.
Plainfield	do	76	28	45.8	-3.3	80	26	23	2	44	3.22	-0.03	1.00	4.0	12	10	9	11	nw.	John Neagle.
Somerville	Somerset	187	10	45.8	-4.0	78	26	23	2	44	2.74	-0.71	0.87	3.9	12	15	8	7	nw.	Peter Hardcastle.
Flemington	Hunterdon	61	54	44.3	-5.5	79	26	21	6	39	3.55	-0.20	1.12	7.0	9	20	1	9	nw.	H. E. Deats.
New Brunswick (b).	Middlesex	100	12	45.0	-5.0	79	26	21	2	40	2.22	-1.23	0.52	...	8	15	5	10	n.	Wm. T. Woerner.
College Farm	do	95	21	46.0	-3.8	79	26	23	2	42	3.24	-0.11	1.13	4.5	10	16	5	9	nw.	Miss J. A. Voorhees.
Laurelville	Hunterdon	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	nw.	William R. Bowne.
District averages.				45.3	-4.3						3.81	+0.23	...	5.2	12	11	9	10	nw.	
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	16	45.2	-5.2	79	26	23	2	41	3.60	-0.41	0.76	8.0	13	8	12	10	nw.	Ernst Wenger.
Trenton	do	60	38	47.4	-5.1	80	26	25	2	37	3.01	-0.48	0.81	T.	10	5	17	8	nw.	E. R. Cook.
Inlaystown	Monmouth	106	21	45.4	-5.2	79	*26	23	2	42	3.66	+0.49	0.69	7.1	10	9	13	8	nw.	F. C. Price, M. D.
Lakewood	Ocean	54	7	45.6	-4.2	77	*25	23	2	42	4.26	+1.12	0.85	4.0	10	19	4	7	nw.	C. A. Roe.
Beverly	Burlington	30	23	47.0	-4.2	83	26	24	2	44	4.13	+0.78	0.92	2.0	13	6	17	7	nw.	C. F. Richardson.
Rancocas	do	68	22	...	...	82	26	22	2	...	3.71	+0.73	0.95	4.2	12	4	9	17	nw.	Spencer Haines.
Brown's Mills	do	71	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	nw.	F. J. Miller.
Moorestown	do	71	43	46.0	-3.9	79	26	23	2	41	3.68	+0.59	0.93	8.2	13	8	6	16	nw.	John C. Beans.
Philadelphia, Pa.	Philadelphia	117	37	47.4	-3.9	78	26	25	2	35	2.88	-0.04	0.93	T.	12	7	7	16	nw.	U. S. Weather Bureau.
Toms River (d. f.)	Ocean	33	16	44.6	-4.3	78	25	23	2	*45	5.14	+1.48	1.36	6.0	10	14	6	10	nw.	F. G. Bunnell.
Indian Mills	Burlington	76	7	46.8	-4.4	83	26	24	2	46	4.61	+1.52	0.84	9.0	12	11	11	8	nw.	James Armstrong.
Clayton	Gloucester	126	11	46.2	-4.0	80	26	24	2	38	4.15	+0.77	0.81	3.0	10	17	5	8	nw.	Wm. T. Farley.
Tuckerton	Ocean	23	10	41.2	-4.1	71	5	23	2	35	4.52	+0.66	0.88	7.0	12	5	16	9	nw.	F. R. Austin.
Friesburg	Salem	100	15	46.3	-3.8	80	26	23	2	43	4.08	+0.91	1.25	3.3	14	2	20	8	nw.	H. C. Perry.
Vineland	Cumberland	118	40	46.4	-4.2	78	26	24	2	41	4.22	+0.90	0.94	3.0	13	12	11	7	nw.	Alfred Chalmers.
Canton	Salem	24	6	...	...	...	...	...	...	...	3.50	+0.79	1.60	2.0	9	19	4	7	nw.	J. H. Maskell.
Bridgeton	Cumberland	30	21	47.7	-4.9	80	26	23	2	41	3.09	-0.55	0.84	4.0	9	13	3	14	nw.	Henry A. Jorden.
Pleasantville	Atlantic	26	10	...	...	...	...	...	...	...	3.42	+0.30	1.29	1.0	9	11	11	8	nw.	L. Van Gilder.
Woodbine	Cape May	43	16	45.6	-4.3	76	25	22	2	43	8.67	+5.16	1.48	4.2	9	17	4	9	nw.	Arthur R. Merrill.
Cape May C. H.	do	19	20	45.6	-4.8	73	5	24	2	30	4.06	-0.68	1.22	2.0	12	9	10	11	nw.	L. T. Garretson.
District averages.				46.2	-4.4						4.09	+0.69	...	4.1	11	10	10	10	nw.	
THE SEA COAST.																				
Oceanic	Monmouth	16	21	45.2	-5.8	78	25	27	2	42	4.96	+1.66	1.27	8.0	16	12	7	11	nw.	Prof. C. E. Dietz.
Asbury Park	do	22	19	43.2	-5.9	69	5	25	2	34	4.55	+0.90	1.27	7.5	13	11	5	14	nw.	B. H. Obert.
Atlantic City	Atlantic	16	32	43.6	-4.0	65	5	25	2	26	3.37	+0.31	1.07	1.9	14	6	10	14	nw.	Section Center.
Cape May City	Cape May	17	14	44.6	-3.8	68	5	26	2	26	2.88	-0.27	0.86	3.7	11	7	10	13	nw.	U. S. Weather Bureau.
District averages.				44.1	-4.9						3.94	+0.65	...	5.3	14	9	8	13	nw.	

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

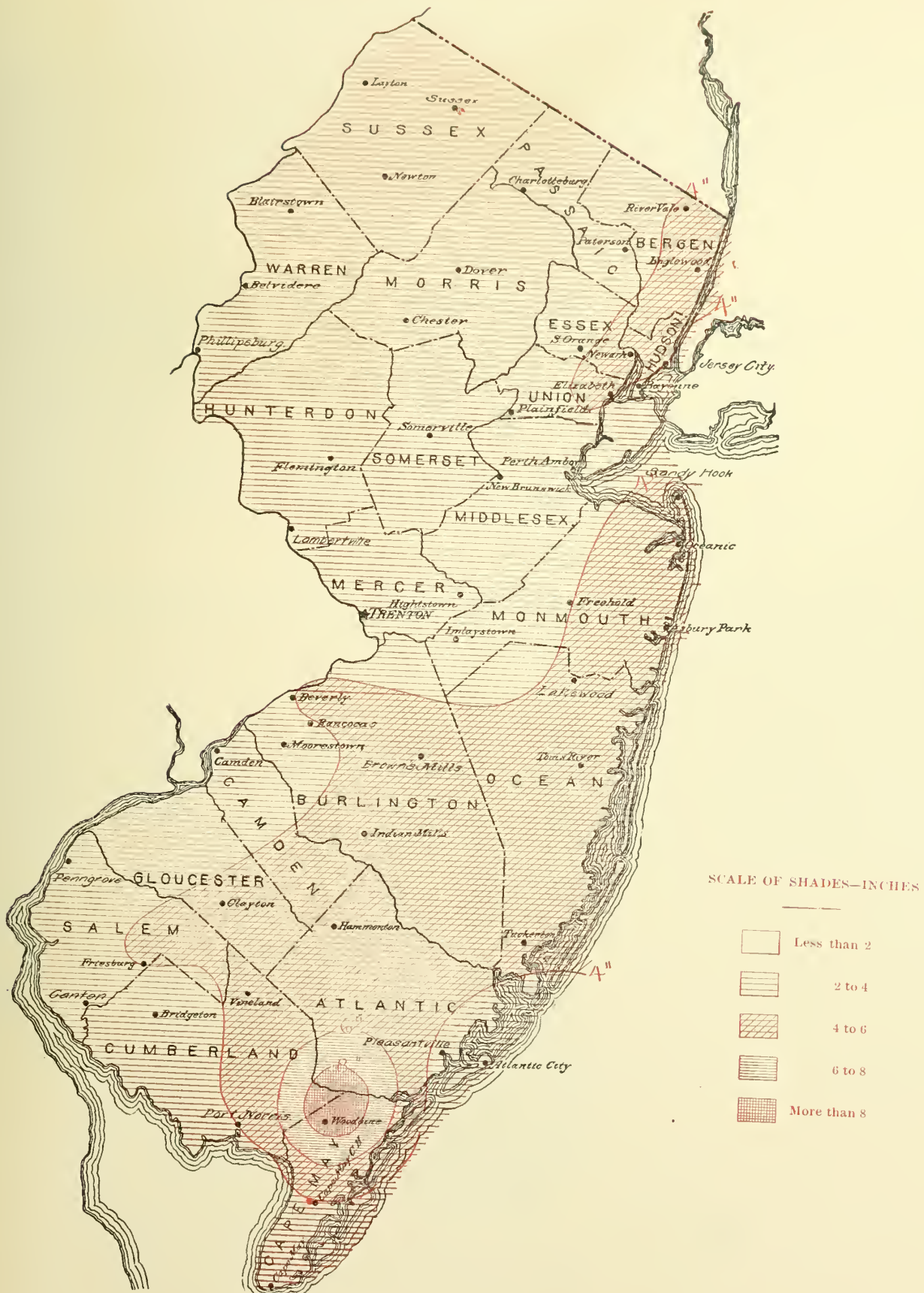
† Received late; not considered in averages.

‡ Incomplete.

THE SEA CAST.



### Total-Monthly Precipitation, April, 1907.



## TOTAL PRECIPITATION FOR APRIL, 1907.

Stations.	Day of month.																															Total.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
THE HIGHLANDS & KITTA-TINNY VALLEY.																																	
Layton					.01			.15	.20	T.		T.	.35				.07		.40				.10	.72		.06						2.06	
Sussex	T.							.92	.35	.07		T.	.39						.12				.07	.71		.04						2.67	
Newton	.05							*	*	1.20		T.	.47	.04			.07		.13				.11	.37		.11						2.55	
Charlotteburg								.95	*	.35			.37						.16					1.45			.08			.11		3.47	
Pompton Plains	.16	.01						.82	.11	.36	.03	*	.40	.21			T.	.13		*			T.	.87		*	1.06					3.46	
Boonton	.05	T.			.02			1.02	.04	.29	.04	*	.40	.03			T.		*	.18								.43	T.	.03		3.82	
Dover	.60						T.	.95	*	.47		*	.40			.02			.17				.67			.23					.31	3.81	
Belvidere	T.							.79	.14	.06			.26					.18					.09	1.38								2.96	
Phillipsburg	.04				.03		.01	.76	.15	.09	.03	.01	.19						.21				.08	1.07		.08		T.				2.71	
THE RED SAND STONE PLAIN.																																	
Mahwah	*	.12						.60	.39	.61	T.	*	.44	.09					*	.16			*	.61		*	.16					3.11	
River Vale	.15			.10				.40	*	1.20		*	.50						.80				*	.75		.30						4.22	
Paterson	.22			.02				1.08	.37	.16		.06	.59			T.			.10				.08	.95		.09	.06		T.			3.71	
Englewood								*	.91	.05	.45	.04	*	.38	.17				T.	.12			*	.91		*	.22		.01	.01		3.59	
Little Falls	.32	T.		T.				T.	.96	.70	.15		.05	.50			T.		.22				.05	.85		.22						4.00	
South Orange	.10							*	.99	.05	.65	.22	*	.39	.08				*	.28				.08	.83		*	.18		.03		3.87	
Chatham	.20	.05			.03			.05	1.15	.51	.07		1.02	1.21			.01		.21				.99			.18		T.	T.	.40		5.88	
Newark	.08			.01			.05	1.15	.51	.07			.22	.27			.01		.16				.43	.42		.22	.03	T.	T.	.02		3.83	
New York, N. Y.	.21				.02		.05	.85	.97	.01			.06	.52			T.	T.	.17				.07	.98		.03	.20	T.		T.		4.67	
Jersey City	.53				.01			1.00	.92	.15			.05	.41			T.	T.	.11				.08	.72		.05	.20	T.	T.			3.95	
Bayonne	.37				.03			1.05	.62	.28	T.		.05	.52					.30				.10	.80		T.	.29	T.		.01		4.72	
Bergen Point	.53				.04			1.03	.85	.23			.61			T.		.02		.20			*	.75		*	.17					4.27	
Elizabeth	.46				.04			1.12	1.06	.27			.09	.30			T.		.14				.06	.69		.10	.17	T.	.02			3.11	
Plainfield	.18					T.		T.	.85	.45	.05		.30					.20				.11	.80		.12	.14						3.32	
Somerville	.18				.01			T.	1.00	.24	.08		.04	.30			T.		T.			.21		.10	.78		.11	.06	T.	.03		2.71	
Flemington	.03							T.	.87	.15	.08		.05	.27					.20					1.12		.26				12		3.57	
New Brunswick	.10								.90	.40			.15	.30					.11				.06	.35			.50					2.22	
College Farm	.21								.52	.28	T.		T.	.19																		3.47	
Lambertville	.17							T.	.73	.34	.10		.05	.23					.24				1.13			.21		.04					
THE SOUTHERN INTERIOR.																																	
Hightstown	.30							.20	.32	.45	.09		.10	.30								.25		.5	.20		.73			.05	.05	3.47	
Trenton	T.			T.				.50	.31	.47	.25		.15	.25					.39				.69	.34		.35						3.47	
Imlaystown	.34			T.				*	.68	.54	.08		*	.34					.32							.67						3.47	
Lakewood	.85				.05				.65	.85			.15	.35					.31				.31	.39			.35		T.	T.		4.11	
Beverly	.40				.03			.01	.92	.60	.10	T.	.07	.15					.34				.37	.66		.33	.15	T.				4.11	
Rancocas	.13			T.	.01			.25	.50	.60	.04		.05	.20					.35				.30	.65		.63		T.				3.47	
Brown's Mills																																	
Moorestown	.46				.01		T.	.78	.50	.05	.02	.05	.12						.30				.36	.58		.05	.40		T.			3.47	
Philadelphia, Pa.	.18			T.				.47	.21	.52	.05		.05	.01					.23				.64	.29		.22	.01	T.		T.		2.11	
Toms River	.10							1.96	*	.90	*	*	.45						.10				1.13			*	.50						5.11
Indian Mills	.84				.04			T.	.70	.66	.12	.05	.06	.21					.42				.25	.66								4.11	
Clayton	.81							T.	.79	.58	.08		.13	T.					.38				.21	.30			.43					4.11	
Tuckerton	.88				.04				.38	.80	.22	.02	.07	.35					.52				.43	.38		*	1.25					4.11	
Friesburg	.65				.05			.03	.58	.42	.05		.05	.09	.01				.30				.30			*	.79					4.11	
Vineland	.94							.04	.54	.59	.05	.03	.05	.04	.05				.39				.71			*	1.60					3.47	
Canton	T.			.08				.04	.58	.47		.12	T.	T.					.33				.65			.82						3.47	
Bridgeton	.10							.10		.84	.05		.10	.05					.38				.38									3.47	
Pleasantville	.55				T.			.02		1.29	.04		.19	.11					.54				.33				.35					3.81	
Woodbine	1.00								.74	1.43		*	1.48						.76				1.17	.97			1.12					4.11	
Cape May C. H.	.90						T.	.68	.34	1.22	.05		.19	.18	.03				.38				.59	.07			.03	T.				4.11	
THE SEA COAST.																																	
Oceanic	.60				.04			1.27	.65	.22	T.	.05	.53	.10					.27	T.			.21	.36		*	.60	.02	.02	.02		4.11	
Asbury Park	.60				.04			1.27	.62	.18	T.	.05	.49	.04					.26				.10	.50			.40	T.				4.11	
Atlantic City	.48				T.	.01		.11	.10	1.07	.01		.25	.05					.63				.40	.03		.15	.07	T.	.01			3.47	
Cape May City	.39				T.	.05		.18	.10	.86	.02		.27	.01	T.				.28				.68				.04	T.				2.11	
																															</		

|| Precipitation measured at 8 a. m., 75th meridian time.  
† Incomplete.

\* Precipitation included in that of following day.

T. Indicates amount too small to measure.



U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR MAY, 1907

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU.

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF

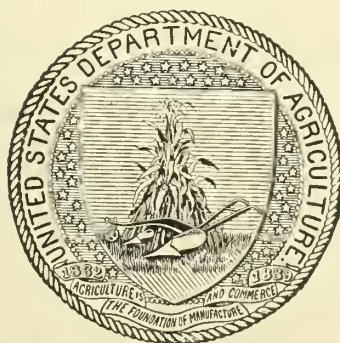
WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.  
WEATHER BUREAU OFFICE

JUNE 22, 1907

# Monthly Mean Isotherms and Prevailing Winds, May, 1907.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

Vol. XX.

ATLANTIC CITY, N. J., MAY, 1907.

No. 5.

## GENERAL SUMMARY.

Exceptionally cool weather was a marked feature of May, 1907. The monthly mean temperature for the district is the lowest that has been reported in May in a period of 25 years, May, 1882, having averaged slightly cooler than the current May. The temperature was almost steadily below the normal thruout the month, the average deficiency in the daily mean being nearly  $5.5^{\circ}$ . This decided departure from the normal, combined with the large temperature deficiency of April, 1907, marks an eventful, tho probably not unprecedented, period, the months of April and May in the year 1874 having been abnormally cool, as indicated by the few existing records. Two moderately warm periods of brief duration (13th-16th and 18th-19th) occurred during the month, the maximum temperature at stations in the interior being the highest ( $82^{\circ}$  to  $91^{\circ}$ ) on the 14th. At stations on, or near, the coast, the maximum temperature,  $73^{\circ}$  to  $86^{\circ}$ , was recorded on the 19th. The nights were unseasonably cool thruout the month, the average of the minimum temperatures being  $45^{\circ}$ . Temperatures of  $32^{\circ}$ , or slightly lower, occurred in exposed localities in the north on the 5th, over much the greater portion of the State on the 12th, and in portions of the extreme north on the 22d, 29th and 30th. Destructive frosts were reported over large areas on the 5th, 12th and 22d.

The precipitation during the month exceeded the normal, except in the Highlands and Kittatinny Valley section, where the average amount, about 3.50 inches, was nearly 1 inch below the normal. The most pronounced excess in rainfall was reported in portions of Atlantic, Burlington, Cape May, Cumberland and Ocean counties, where the monthly amounts, ranging from 6 to 8 inches, were about twice the normal. No excessive 24-hour precipitation occurred during the month, altho heavy rains were general on the 4th and 16th. Thunderstorms gave large amounts of rain in some localities in the south on the 27th, and were attended by heavy falls of hail in portions of Atlantic, Burlington and Cumberland counties.

The frequent and heavy rains in the southern counties seriously interfered with agricultural operations, and the low temperatures retarded growth in all districts, the season at the close of the month being unusually backward.

## TEMPERATURE.

The monthly mean,  $55.4^{\circ}$ , is  $5.4^{\circ}$  below the normal, and  $5.6^{\circ}$

below the mean for the corresponding month of 1906.

The local departures from the normal temperature ranged from  $-6.9^{\circ}$ , at College Farm and Hightstown, to  $-3.5^{\circ}$ , at Atlantic City.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $54.2^{\circ}$ ; Red Sand Stone Plain,  $55.4^{\circ}$ ; Southern Interior,  $56.3^{\circ}$ ; Sea Coast,  $54.4^{\circ}$ .

The highest monthly mean was  $58.6^{\circ}$ , at Bridgeton, and the lowest,  $52.6^{\circ}$ , at River Vale.

The range of monthly mean temperature was  $6.0^{\circ}$ .

The maximum was  $91^{\circ}$ , at Belvidere, on the 14th, and the minimum,  $22^{\circ}$ , at Layton, on the 12th.

The range the State was  $69^{\circ}$ .

The mean daily range was  $20.7^{\circ}$ .

The greatest local monthly range,  $67^{\circ}$ , occurred at Layton, and the least,  $37^{\circ}$ , at Cape May.

The greatest daily range,  $46^{\circ}$ , occurred at Indian Mills, on the 14th.

## PRECIPITATION.

The average, 5.05 inches, is 1.31 inches above the normal, and 0.84 of an inch above the average for the corresponding month of 1906.

The local departures from the normal ranged from  $-1.59$  inches, at Belvidere, to  $+4.63$  inches, at Cape May.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 3.46 inches; Red Sand Stone Plain, 4.52 inches; Southern Interior, 6.17 inches; Sea Coast, 6.17 inches.

The greatest amount, 8.09 inches, occurred at Vineland, and the least, 2.51 inches, at Belvidere.

The greatest amount in 24 consecutive hours, or less, 2.21 inches, occurred at Vineland, on the 4th.

Measurable amounts of rain occurred on an average of 12 days.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 12; partly cloudy, 9; cloudy, 10. At Atlantic City the duration of sunshine was 50 per cent of the possible amount, and at Jersey City (estimated), 52 per cent. Sunshine was below the normal.

## WIND.

Westerly winds prevailed. At Atlantic City the total movement was 6,417 miles; average hourly velocity 8.6 miles; highest velocity, 31 miles per hour, from the southeast, on the 4th. At Jersey City the total movement was 9,523 miles; average hourly velocity, 12.8 miles; highest velocity, 42 miles per hour, from the west, on the 4th. High winds were reported on the 4th, 9th, 15th, 20th, 21st, 28th, and 29th.

## MISCELLANEOUS PHENOMENA.

*Meteor.*—Vineland, 3.

*Aurora.*—Moorestown, 18.

*Halo, lunar.*—Hightstown, 1.

*Rainbow.*—Beverly, Imlaystown, Indian Mills, 1.

*Halos, solar.*—Indian Mills, 19, 22; Jersey City, 22, 25; Moorestown, 22; Rancocas, 9, 22.

*Hail.*—Indian Mills, 20; Moorestown, 19, 27; Phillipsburg,

10; Rancocas, South Orange, Vineland, 27.

*Thunderstorms* (dates and number of reports).—4th, 1; 6th, 5; 7th, 1; 10th, 15; 11th, 8; 16th, 20; 19th, 16; 20th, 12; 26th, 1; 27th, 24. Thunderstorms occurred at Weather Bureau stations as follows: Atlantic City, 6, 19, 20, 27; Cape May, 4, 6, 11, 19, 27. Total number of reports, 112.

*Frost*.—Killing frost occurred on the 5th in the northern counties; on the 12th over practically the entire district (light to heavy at coast stations); on the 21st and 22d at numerous stations in the interior, and on the 29th and 30th in the extreme northern parts of Bergen and Sussex counties.

*Fog*.—Asbury Park, 17; Atlantic City, 8, 15, 26, 27; Beverly, 7, 9, 10; Cape May, 6, 7, 8, 10, 15, 17, 26, 27; Hightstown, 7, 8, 27; Indian Mills, 8, 10, 26, 27; Jersey City, 18; Lambertville, 6, 7, 18; Newark, 6; Oceanic, 15, 27; Plainfield, 7; Rancocas, 6, 7, 8, 9, 10; Toms River, 8, 17; Trenton, 7; Tuckerton, 8, 15, 26; Vineland, 26, 27.

#### DELAYED REPORT.

Englewood, April, 1907.—Mean temperature, 44.4°; departure from the normal, -3.9°; highest, 74°, 25th; lowest, 26°, 2d; greatest daily range, 31°. Total precipitation, 4.40 inches; departure from the normal, +1.44 inches; greatest in 24 hours, 0.93 of an inch; total snowfall, 6.5 inches; number of rainy days, 15; clear, 10; partly cloudy, 5; cloudy, 15; prevailing wind direction, northwest.

#### PRECIPITATION DATA FOR ATLANTIC CITY, N. J.

##### MONTHLY AND ANNUAL PRECIPITATION.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1874.	3.22	2.72	1.77	5.91	1.97	3.01	1.56	1.23	5.37	1.78	2.30	3.24	34.08
1875.	3.09	2.01	4.18	6.05*	1.92	3.53	1.30	4.78	2.45	2.17	4.19	4.28	39.95
1876.	1.05	3.53	4.78	1.86	3.92	1.78	0.92	2.23	6.61	0.78	6.52	2.01	35.99
1877.	1.92	0.87†	4.89	2.51	1.58	2.35	6.13	1.40	3.39	3.24	5.37	2.73	36.38
1878.	4.65	1.36	3.79	2.20	3.52	5.12	5.57	2.73	2.03	2.63	2.43	4.21	40.24
1879.	1.71	2.64	2.41	5.19	1.53	5.20	2.75	14.28	1.85	1.11	2.42	5.89	46.98
1880.	1.70	2.95	5.97	1.83	0.54	3.15	5.79	4.42	3.14	4.62	4.03	8.20*	46.34
1881.	7.18*	5.03	4.71	2.85	1.68	3.82	1.01	2.79	2.20	3.03	3.64	2.14	40.08
1882.	6.74	4.37	3.43	3.21	5.27	1.72	2.52	14.87*	5.84	2.28	1.67	3.37	55.29
1883.	5.43	5.18	3.09	4.31	1.78	3.53	2.83	3.21	5.31	6.18	1.25	2.54	44.64
1884.	7.17	7.44*	5.79	4.29	1.62	3.60	4.73	4.04	0.34†	2.94	4.03	7.71	53.70
1885.	4.27	2.90	0.95†	1.68	3.61	1.33	4.45	4.50	1.59	2.94	6.84*	4.29	39.35
1886.	3.17	4.92	3.40	1.86	4.15	2.56	4.73	3.58	0.89	8.16	3.45	3.93	44.80
1887.	3.50	4.17	2.94	2.85	1.61	4.21	1.95	3.08	3.12	3.39	2.58	4.51	37.91
1888.	3.96	2.81	4.15	2.96	4.02	3.33	2.44	4.30	7.14	3.48	2.71	2.84	44.14
1889.	4.16	2.32	4.58	2.92	2.62	3.13	4.66	1.93	3.17	3.02	5.77	0.25†	38.83
1890.	1.27	2.43	5.20	3.86	5.81*	2.99	5.46	7.51	5.01	4.05	0.38†	3.33	47.30
1891.	4.41	5.89	3.32	2.28	3.93	1.67	7.05	2.87	0.90	5.39	2.24	3.19	43.14
1892.	3.02	1.43	3.69	3.05	5.51	4.44	4.23	3.26	1.08	0.30	5.14	2.12	37.27
1893.	2.67	3.43	4.21	4.92	3.52	1.57	3.28	3.55	3.61	1.74	2.19	2.44	37.13
1894.	2.07	3.46	1.39	1.71	5.03	2.91	0.15†	3.24	3.96	5.20	2.38	1.71	33.21
1895.	3.12	1.14	3.11	4.24	3.17	0.74†	4.85	0.16†	0.57	1.79	2.77	2.74	28.40
1896.	1.04†	6.98	3.61	1.07†	2.67	5.20	3.54	1.84	2.26	1.27	1.98	0.85	32.31
1897.	2.50	2.96	2.20	3.42	1.71	2.62	8.01	2.07	0.36	2.21	4.04	3.55	35.65
1898.	3.39	1.86	2.56	2.67	5.17	2.49	2.23	3.99	1.81	4.60	5.51	2.40	38.68
1899.	2.40	3.78	4.17	1.27	1.20	1.56	4.78	5.56	8.19*	2.55	1.03	1.35	37.84
1900.	2.40	3.27	2.84	2.03	3.23	2.33	3.13	0.70	1.42	1.86	2.16	2.76	128.13
1901.	3.16	0.94	3.31	3.46	5.11	0.98	1.89	5.88	2.33	1.18	2.09	6.00	36.33
1902.	2.97	5.53	4.26	2.52	1.71	6.14*	2.85	3.36	5.32	5.37	3.42	7.15	50.58
1903.	3.93	5.22	5.71	2.49	0.52†	4.38	10.14*	7.02	2.22	12.13*	1.86	5.49	61.11
1904.	2.13	2.08	2.67	3.09	1.01	2.28	2.52	4.87	1.02	1.50	2.29	4.68	30.14
1905.	4.74	3.67	4.34	3.51	2.97	2.27	1.67	6.22	2.87	1.02	1.01	4.88	39.17
1906.	2.48	3.66	6.30*	1.83	3.56	2.30	4.97	8.35	2.94	6.22	2.52	3.67	48.80
M'ns	3.36	3.33	3.75	3.03	2.94	2.98	3.76	4.36	3.04	3.34	3.10	3.65	40.64

\* Greatest on record.

† Least on record.

#### MISCELLANEOUS PRECIPITATION DATA.

Greatest annual amount, 61.11 inches, 1903.

Least annual amount, 28.13 inches, 1900.

Greatest monthly amount, 14.87 inches, August, 1882.

Least monthly amount, 0.15 of an inch, July 1894 (0.16 of an inch, August, 1895).

Number of months, 1874-1906, with precipitation more than 10 inches, 4; more than 8 inches, 9; less than 2 inches, 92; less than 1 inch, 21; less than 0.50 of an inch, 7.

Longest period without measurable precipitation, September 17-October 14, 1886, 28 days.

Longest rainy period, December 22, 1875-January 3, 1876, 13 days; total amount of precipitation, 1.43 inches.

Longest period with annual precipitation below the normal, 1892-1901, 10 years.

Number of years, 1874-1906, with precipitation 5 inches, or more, above the normal, 8; with precipitation 5 inches, or more, below the normal, 7.

Longest period with monthly precipitation above the normal, June, 1880-March, 1881, 10 months; below the normal, June, 1900-March, 1901, 10 months.

Greatest amount in 24 hours, 9.21 inches, October 8-9, 1903; in 1 hour, 2.77 inches, July 22, 1903; in 10 minutes, 1.19 inches, May 31, 1906; in 5 minutes, 0.83 of an inch, May 31, 1906.

Number of months, 1874-1906, with excessive precipitation (2.50 inches, or more, in 24 hours), 28.

Average annual number of days with measurable precipitation, 124.

Greatest annual number of rainy days, 143, 1880; least number, 101, 1899.

Average precipitation for spring, 9.72 inches; summer, 11.10 inches; autumn, 9.48 inches; winter, 10.34 inches.

Total precipitation for the wettest spring, 1890, 14.87 inches; for the wettest summer, 1879, 22.23 inches; for the wettest autumn, 1903, 16.21 inches; for the wettest winter, 1880-1, 20.41 inches.

Total precipitation for the driest spring, 1885, 6.24 inches; for the driest summer, 1876, 4.93 inches; for the driest autumn, 1904, 4.81 inches; for the driest winter, 1889-90, 3.95 inches.

*Snowfall* (1894-1906).—Average annual fall, 18 inches.

Average annual number of days with snow, 13.

Greatest annual amount, 34.4 inches, 1899.

Least annual amount, 7.9 inches, 1894.

Greatest winter amount (December, January and February), 39 inches, 1904-5; least winter amount, 7 inches, 1905-6.

Greatest monthly amount, 28 inches, February, 1899.

#### COMPARATIVE STATE DATA FOR MAY.

Year.	Temperature.			Average precipitation
	Mean.	Highest.	Lowest.	
1887.....	63.3	94	35	1.37
1888.....	58.6	91	26	4.92
1889.....	62.3	94	32	4.09
1890.....	60.7	87	33	4.24
1891.....	59.5	93	24	2.97
1892.....	60.1	90	30	5.04
1893.....	59.4	95	29	4.07
1894.....	61.4	93	30	7.72
1895.....	60.9	102	28	2.85
1896.....	65.3	98	29	3.21
1897.....	60.6	87	29	5.68
1898.....	58.5	93	29	7.00
1899.....	61.1	94	29	1.92
1900.....	60.9	98	26	4.71
1901.....	58.6	90	29	5.60
1902.....	60.3	95	29	2.04
1903.....	62.7	98	21	0.59
1904.....	62.8	97	31	2.60
1905.....	61.4	89	22	1.71
1906.....	61.0	94	24	4.21
1907.....	55.4	91	22	5.05



CLIMATOLOGICAL DATA FOR MAY, 1907.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.		Number cloudy days.	Prevailing direction of wind.
THE HIGHLANDS & KITTATINNY VAL.																				
Layton	Sussex	550	8	52.9	-5.8	89	14	22	12	44	2.59	-0.15	0.90	T.	7	19	8	4	ne.	Warren C. Hursh.
Sissex	do	442	13	54.4	-6.2	89	14	27	12	40	3.21	-0.28	1.40	T.	11	18	5	8	w.	Prof. W. H. Seeley.
Newton	do	678	27	53.9	-5.8	90	14	24	12	42	2.81	-1.33	1.08	o	12	19	5	7	nw.	Brice Bowman.
Charlotteburg	Passaic	719	15	53.0	-4.7	82	14	29	12	34	3.80	-0.42	1.03	o	11	16	10	5	w.	G. S. Briggs.
Pompton Plains	Morris	195	4	.....	.....	.....	.....	.....	.....	.....	4.44	.....	1.91	o	12	.....	.....	.....	nw.	River & Flood Service.
Boonton	do	413	8	.....	.....	.....	.....	.....	.....	.....	4.77	-0.79	2.03	o	12	.....	.....	.....	ne.	River & Flood Service.
Dover	do	575	23	53.6	-5.2	86	14	28	12	36	3.67	-0.56	1.01	o	11	4	11	16	.....	William C. Harris.
Belvidere	Warren	289	17	55.8	-4.9	91	14	29	12	44	2.51	-1.59	0.68	o	8	18	3	10	.....	Samuel J. Hixson.
Phillipsburg	do	196	5	55.9	-5.1	89	14	31	12	41	3.37	-0.85	1.00	o	13	13	8	10	e.	D. W. Smith.
District averages.				54.2	-5.3	.....	.....	.....	.....	.....	3.46	-0.84	.....	.....	11	15	7	9	.....	
THE RED SAND STONE PLAIN.																				
Mahwah	Bergen	.....	4	.....	.....	.....	.....	.....	.....	.....	4.16	.....	1.75	o	12	.....	.....	.....	nw.	River & Flood Service.
River Vale	do	70	16	52.6	-6.8	85	14	25	12	44	4.12	-0.42	1.40	o	10	11	13	7	sw.	G. S. M. Holdrum.
Paterson	Passaic	110	31	57.0	-4.7	90	14	34	12	40	3.72	-0.73	1.20	T.	11	8	17	6	s.	H. A. Probert.
Englewood	Bergen	135	17	55.6	-4.9	83	14	35	12	33	4.35	+0.54	1.07	o	12	9	8	14	nw.	William C. Tucker.
Little Falls	Passaic	175	4	.....	.....	.....	.....	.....	.....	.....	4.32	.....	1.39	o	13	.....	.....	.....	n.	River & Flood Service.
South Orange	Essex	200	38	54.4	-6.0	84	14	32	12	35	5.02	+1.53	1.05	o	9	9	9	13	ne.	W. J. Chandler, M.D.
Chatham	Morris	234	4	.....	.....	.....	.....	.....	.....	.....	5.13	.....	1.35	o	12	.....	.....	.....	sw.	River & Flood Service.
Newark	Essex	140	65	55.8	-5.3	88	14	33	12	38	6.45	+2.53	1.91	o	11	5	15	11	nw.	Wm. Wiener.
New York, N. Y.	New York	314	37	55.3	-4.0	83	14	30	12	30	4.08	+0.90	1.10	o	12	9	10	12	nw.	U. S. Weather Bureau.
Jersey City	Hudson	15	2	56.4	.....	83	14	35	12	34	4.55	.....	1.29	o	12	8	8	15	nw.	Samuel K. Pearson, Jr.
Bayonne	do	50	17	55.0	-6.3	87	14	34	12	37	4.44	+0.93	1.67	o	14	10	9	12	se.	John H. Eadie.
Bergen Point	do	37	10	55.2	-5.5	87	14	34	12	37	4.09	+1.45	1.75	o	14	6	16	9	se.	Dr. W. H. Mitchell.
Elizabeth	Union	33	28	56.8	-5.5	90	14	34	12	40	4.55	+0.75	1.53	o	12	18	6	7	.....	W. M. Oliver.
Plainfield	do	100	17	54.8	-5.9	86	14	30	12	39	4.09	+0.14	1.15	o	13	10	12	9	sw.	John Neagle.
Somerville	Somerset	76	28	55.7	-5.2	88	14	28	12	44	4.53	+0.47	2.00	o	12	12	6	13	sw.	Peter Harcastle.
Flemington	Hunterdon	187	10	55.6	-5.9	87	14	29	12	42	4.34	+0.81	1.85	o	14	11	7	13	e.	H. E. Beatts.
New Brunswick	Middlesex	61	54	54.8	-5.8	86	14	28	12	44	4.30	+0.35	1.09	o	11	18	6	7	e.	Wm. T. Woerner.
College Farm	do	100	12	55.0	-6.9	86	14	29	12	41	4.50	+0.78	1.05	o	11	13	11	7	se.	Miss J. A. Voorhees.
Lambertville	Hunterdon	95	21	56.4	-5.5	88	14	31	12	41	4.57	+0.25	1.81	o	10	16	8	7	w.	William R. Bowne.
District averages.				55.4	-5.6	.....	.....	.....	.....	.....	4.52	+0.69	.....	.....	12	11	10	10	.....	
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	16	55.2	-6.9	85	14	31	12	37	5.79	+1.69	1.27	o	11	9	8	14	nw.	Ernst Wenger.
Trenton	do	60	38	56.4	-6.7	82	14	33	12	36	6.27	+2.30	1.33	o	8	5	18	8	sw.	E. R. Cook.
Inlaystown	Monmouth	106	21	55.8	-6.7	87	14	32	12	41	5.07	-1.08	0.84	o	8	11	12	8	n.	F. C. Price, M.D.
Lakewood	Ocean	54	7	55.3	-6.3	89	14	31	12	42	5.96	+3.47	2.11	o	10	16	10	5	e.	C. A. Roe.
Beverly	Burlington	30	23	56.9	-5.4	88	14	33	12	42	6.01	+1.95	1.64	o	10	7	17	7	nw.	C. F. Richardson.
Rancocas	do	68	22	.....	.....	85	14	.....	.....	.....	5.29	+1.46	1.40	o	13	9	6	16	nw.	Spencer Haines.
Moorestown	do	71	43	55.8	-5.2	85	14	32	12	40	5.34	+1.16	1.44	o	12	9	8	14	nw.	John C. Beams.
Philadelphia, Pa.	Philadelphia	117	37	57.6	-5.0	84	15	38	12	32	5.62	+2.41	1.86	o	14	6	8	17	e.	U. S. Weather Bureau.
Toms River (f.)	Ocean	33	16	55.6	-4.6	86	14	30	12	41	7.34	+3.11	2.00	o	9	17	2	11	sw.	F. G. Bunnell.
Indian Mills	Burlington	76	7	57.0	-6.0	90	14	30	12	46	6.03	+3.62	1.68	o	12	13	11	7	sw.	James Armstrong.
Clayton	Gloucester	126	11	56.4	-5.5	84	14	32	12	36	5.18	+2.28	1.33	o	10	16	4	11	sw.	Wm. T. Farley.
Tuckerton	Ocean	23	10	54.5	-5.6	84	19	31	12	36	5.82	+2.75	1.60	o	12	9	10	12	sw.	F. R. Austin.
Friesburg	Salem	100	15	56.4	-5.6	83	14	29	12	39	5.25	+1.87	1.00	o	14	7	14	10	w.	H. C. Perry.
Vineland	Cumberland	118	40	56.9	-5.3	85	14	30	12	40	8.00	+4.30	2.21	o	15	12	13	6	e.	Alfred Chalmers.
Canton	Salem	24	6	.....	.....	.....	.....	.....	.....	.....	5.66	+2.00	1.20	o	10	16	5	10	.....	J. H. Maskell.
Bridgeton	Cumberland	30	21	58.6	-6.0	85	*14	31	12	39	6.48	+2.34	1.67	o	14	11	4	16	ne.	Henry A. Jorden.
Pleasantville	Atlantic	26	10	.....	.....	.....	.....	.....	.....	.....	7.15	+3.92	1.63	o	12	16	6	9	.....	L. Van Gilder.
Woodbine (b)	Cape May	43	16	55.8	-4.9	82	19	31	12	40	7.16	+3.24	1.60	o	14	15	9	7	w.	Arthur R. Merrill.
Cape May C. H. (a)	do	19	20	56.1	-4.6	80	19	32	12	33	6.78	+3.26	1.36	o	13	9	12	10	se.	L. T. Garretson.
District averages.				56.3	-5.6	.....	.....	.....	.....	.....	6.17	+2.54	.....	.....	12	11	9	11	.....	
THE SEA COAST.																				
Oceanic	Monmouth	16	21	55.4	-5.8	82	19	37	12	38	5.80	+1.55	1.81	o	14	11	10	10	s.	Prof. C. E. Dietz.
Asbury Park	do	22	19	53.6	-5.8	83	19	35	12	33	5.46	+1.69	1.90	o	12	8	10	13	w.	B. H. Obert.
Atlantic City	Atlantic	16	32	54.0	-3.5	81	19	37	12	26	5.51	+2.49	1.14	o	15	7	6	18	sw.	Section Center.
Cape May City	Cape May	17	14	54.6	-4.0	73	19	36	12	21	7.73	+4.63	1.81	T.	17	10	12	9	s.	U. S. Weather Bureau.
District averages.				54.4	-4.8	.....	.....	.....	.....	.....	6.12	+2.59	.....	.....	14	9	10	12	.....	

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

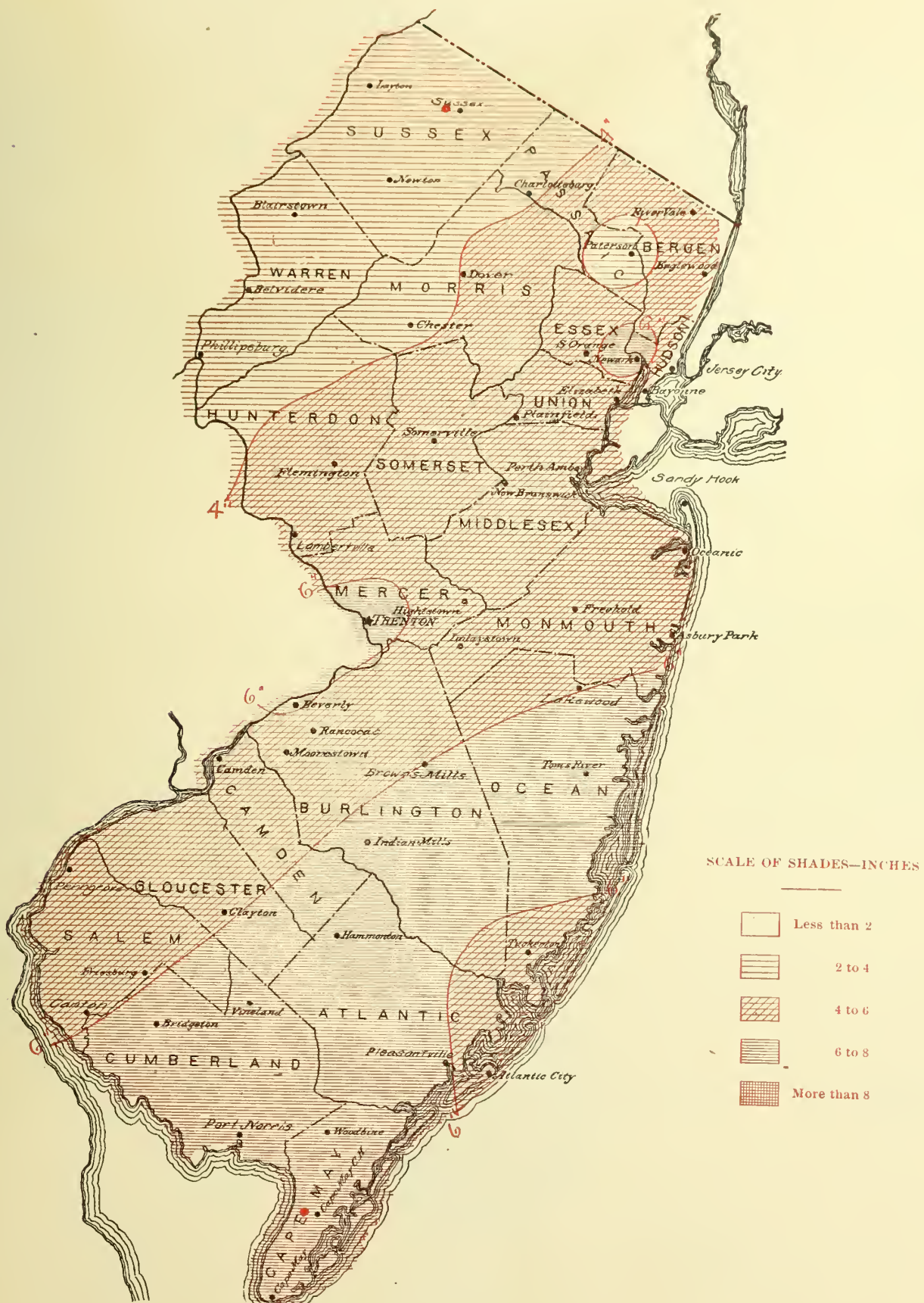
† Not considered in averages.

‡ Incomplete.

THE ERA CONT.



# Total Monthly Precipitation, May, 1907.



## TOTAL PRECIPITATION FOR MAY, 1907.

Stations.	Day of month.																															Total.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
THE HIGHLANDS & KITTA-TINNY VALLEY.																																	
Layton				.80		.26			.20		T.					.90	.08									.30	.05					2.59	
Sussex				.74		.20	.04		.14	.04	.18					1.40	.10						.05			.25	.07					3.21	
Newton	.05			.32		.18	.05		.21		.26	.02				1.08	.23				.08				.23	.10					T.	2.81	
Charlotteburg				.95			.14		.20	*	.35					*	1.03		.08	.21							.72				.12	3.80	
Pompton Plains	.11			.93	.13	.02	.04		.06	.10	.58					.16	1.91		.06							.07	.08	.16				4.44	
Boonton	.27			1.12	.03	.02	.03		.16	.14	.39					.19	2.03		*	.13						.13	.04	.09				4.77	
Dover				1.00		.05	.04		.29	*	.55					1.01			.10	.04						*	.59					3.67	
Belvidere	.23			.63		.06					.46					.68	.12									.16	.17					2.51	
Phillipsburg	.49		.02	.63		.06	T.	.02	.16	.76	.24					.65	.08			.05						.09	.07					3.32	
THE RED SAND STONE PLAIN.																																	
Mahwah	.10			.48	.29	.03	.10		.15	.05	.45					.16	1.75			.15						.08	.06	.31				4.10	
River Vale	.40			.90		.15			.30	.40						1.40			.20							*	.35				.02	4.12	
Paterson	.30			.95		.10			.30	.10	.54					T.	.95	.25		T.	.02			T.		.15	.03				T.	3.72	
Englewood	.01			1.07		.47	T.	T.	.31	.52	.31					1.01	.03		.06	.06			T.			.16	.31					4.35	
Little Falls	.39			.84	.03	.02	.05	.02	.19	.14	.84					.15	1.39			.07						.12	.05	.02				4.32	
South Orange	.58			1.05		.32	T.		.22	.95						T.	.93			.21						.18	.58					5.02	
Chatham	.68			.70	.13	.20	.10		.22	.08	.96	.04				.10	1.35			.18						.05	.12	.22				5.13	
Newark	.06			1.20		.15			.25	.97	.54					1.91	.10	.17						T.		.06	1.09					6.45	
New York, N. Y.	.01			1.01		.37	T.	T.	.29	.46	.29					T.	1.06	.04		.07	.06			T.		.11	.28					4.08	
Jersey City	.08		T	1.07		.28	T.	T.	.31	.57	.34					T.	1.20	.06	.01	.13			T.			.12	.35					4.55	
Bayonne	.05			.88		.29	.01	.01	.30	.18	.31					T.	1.67	.12	T.	.02	.07					.08	.45	T.				4.44	
Bergen Point	.03			1.03		.33	T.	.03	.30	.13	.33					1.75	.19	.05	.05							.12	.33	.02				4.66	
Elizabeth	.14			1.00		.30			.40	*	.63					*	1.53		*	.12						*	.43					4.52	
Plainfield	.20			.91		.19	.02		.26	.19	.45					2.01	.14	.05	.1							.11	.44	T.				4.06	
Somerville	.22			.94		.11	.01		.25	.22	.32					1.00			.08	.15						.15	.08					4.52	
Flemington	.16			1.02		.17	.02	.01	.32	.11	.21					1.85	.12		.03	.09						.14	.09					4.34	
New Brunswick				1.04		.28	.06		.05	.27	.31					1.06	.23			.38						.15	.41					4.30	
College Farm				1.00		.29	.08	T.	.30	T	.33					1.05	.28		.06	.41						.18	.49					4.50	
Lambertville	T.			1.16		.10	T.	.05	.33		.41					1.81		T.	.13	.30						.21	.07					4.57	
THE SOUTHERN INTERIOR.																																	
Hightstown				1.21		.63	.05	.04	.39		.21					1.27		*	.54							.20	1.25					5.70	
Trenton				1.30		.70	T.		.53		.25					1.33			1.29	T.						.27	1.60					6.27	
Imlaystown	.02					.43			.45	.23						.84			.61							*	.49					3.07	
Lakewood	.05			2.11		.53	.05		.60		.20					1.20			.57							.08	.62					5.90	
Beverly	.02			1.05		1.02	T.	T.	.39		.22					1.64	.11		T.	.97		T.	T.			.24	.40		T.	T.		6.01	
Rancocas	.01		T	1.10		.50	.02	T.	.30		.22	.12				1.00	.12		.10	.51		T	.01	T.		.25	1.15		T.			5.78	
Moorestown	.01			1.01		.44	.01	T	.42		.17					1.33	.11		*	.63		T.	.01			.24	.91		T.			5.34	
Philadelphia, Pa.	.01		T	.88		.75	T.	.01	.35	.05	.16					T	1.86	T	.67	.01		T.	.02	.01		.27	.57				T.	5.66	
Toms River	.16			2.00		1.40			.60		.30					*	1.50			.36						*	1.02					7.34	
Indian Mills	.15			1.68		.95	.18		.49		.15					.85	.07		.32	.49					.03	.23	.92					6.01	
Clayton	.12			1.33		.89	T		.54		.18					.91			T.	.35					.06	*	.80					5.18	
Tuckerton		.20		1.60		.56	.08		.41		.20					.44	.30		.83						.08	.20	.92					5.85	
Friesburg	.11			1.00		.97	.05		.60		.17					.81		.10	.06	.40				.15	T	.17	.62					5.21	
Vineland	.27			2.21		1.43	.07		.54		.15					1.20	.06	*	.28				T.	.10	*	.15	1.49					.05	8.00
Canton	.14			1.20		.85	.10		.65		.18					.87		.56	T.						.41	T.	.70					5.60	
Bridgeton	.30			1.67		1.10	.05	.54	.10		.15					.23	.13		.70						.28	.08	.10	.55				6.48	
Pleasantville	.25	.06		1.55		1.63	.11		.50		.25					.85			1.23							.35	.34					.03	7.11
Woodbine	*	1.13		1.60			*	.87	.34		.21					*	1.03		.60						.25	.51	.62					7.10	
Cape May C. H.	.25	.21		1.36		.65	.15		.88		.55					.65	.34		.74				T.	.16		.57	.27					T.	6.78
THE SEA COAST.																																	
Oceanic	.02			1.58		.32	.04	.02	.42	T.	.18					.50	.20	.01	.03	.53						.14	1.81					5.80	
Asbury Park	.05			1.90		.31	.07		.62		.25					.42	.78			.38						.18	.48	.02				5.40	
Atlantic City	.28	.02		1.14		.46	.16	T.	.55		.44					.45		.01	.82	.19			T.	.05		.20	.73				.01	5.51	
Cape May City	.57	.22	.10	1.48		1.81	.16	.15	.59		.74					.60			.55	.14			.05	.30	.01	.15	.11					T.	7.73

|| Precipitation measured at 8 a. m., 75th meridian time.

\* Precipitation included in that of following day.

T. Indicates amount too small to measure.

† Incomplete.



551.05  
LNNJ

U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR JUNE, 1907.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU.

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF

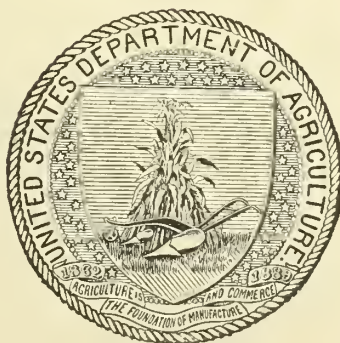
WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.  
WEATHER BUREAU OFFICE

JULY 24, 1907

# Monthly Mean Isotherms and Prevailing Winds, June, 1907.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

Vol. XX. ATLANTIC CITY, N. J., JUNE, 1907. No. 6.

## GENERAL SUMMARY.

Abnormally cool weather, which was a marked feature of April and May, 1907, continued thru the first part of June, the daily mean temperatures from the 1st to the 14th, inclusive, averaging about  $8^{\circ}$  below the normal. An abrupt change to decidedly warmer weather occurred on the 15th, the 24-hour increase in the maximum temperatures amounting to about 25 degrees, the temperature during the rest of the month averaging nearly the normal. The absence of periods of abnormal warmth resulted, however, in a large temperature deficiency for the month as a whole, the low mean for the State being, with one exception ( $64.0^{\circ}$ , for June, 1903), unprecedented. The deficiency in mean temperature was most pronounced over the southern half of the district, where it averaged nearly  $5.5^{\circ}$  per day, with local departures exceeding  $6^{\circ}$  at several stations. The departures from the normal at stations in the north averaged about  $4.5^{\circ}$ , and were less than  $4^{\circ}$  in Passaic and Sussex counties, and portions of Bergen and Hudson counties. Exceptionally low maximum temperatures occurred during the first 3 days of the month and again on the 14th, the highest readings within the State on the 2d being generally less than  $55^{\circ}$ . The highest temperatures for the month, ranging from  $81^{\circ}$  to  $90^{\circ}$  on the coast, and from  $87^{\circ}$  to  $96^{\circ}$  in the interior, were reported generally on the 22d and 25th. The night temperatures were unseasonably low during practically the entire month, the lowest occurring generally on the 13th, with a record-breaking minimum of  $31^{\circ}$  at Charlotteburg, Passaic County, on that date. Light frost was reported on the 13th in exposed localities in the northern interior and in the western portion of Burlington County.

The precipitation during the month exceeded the normal over the greater portion of the State, altho the excess in the northern districts was small, slight deficiencies occurring over limited areas of the Highlands and the Red Sand Stone Plain sections. The most marked excess in rainfall was reported in portions of Burlington, Cape May and Gloucester counties, in the south, where the monthly amounts, ranging from 5 to nearly 7 inches, averaged about 2.50 inches above the normal. A large percentage of the monthly rainfall occurred during the general storms of the 1st-2d and 29th-30th, the precipitation during the rest of the month resulting mainly from numerous local

showers and thunderstorms, most of which gave slight amounts. Generally the month was free from local storms of severity, altho a heavy hailstorm past over portions of the southwestern counties on the 5th, with destructive effects in some localities.

The northeast storm, which reached the New Jersey coast from the lower Mississippi valley during the night of the 1st-2d, developed great energy, and was exceptionally severe for the season. Wind velocities ranging from 33 to 47 miles per hour were recorded at coast stations on the 2d, and several stations reported the occurrence of snow flurries, the storm being attended by low temperatures.

## TEMPERATURE.

The monthly mean,  $64.7^{\circ}$ , is  $4.8^{\circ}$  below the normal, and  $5.7^{\circ}$  below the mean for the corresponding month of 1906.

The local departures from the normal temperature ranged from  $-2.7^{\circ}$ , at Englewood, to  $-6.8^{\circ}$ , at Vineland.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $63.5^{\circ}$ ; Red Sand Stone Plain,  $65.1^{\circ}$ ; Southern Interior,  $65.3^{\circ}$ ; Sea Coast,  $62.9^{\circ}$ .

The highest monthly mean was  $66.9^{\circ}$ , at Bridgeton, and the lowest,  $61.4^{\circ}$ , at Charlotteburg.

The range of monthly mean temperature was  $5.5^{\circ}$ .

The maximum was  $96^{\circ}$ , at Elizabeth, on the 26th, and the minimum,  $31^{\circ}$ , at Charlotteburg, on the 13th.

The range within the State was  $65^{\circ}$ .

The mean daily range was  $20.8^{\circ}$ .

The greatest local monthly range,  $58^{\circ}$ , occurred at River Vale, and the least,  $33^{\circ}$ , at Cape May.

The greatest daily range,  $42^{\circ}$ , occurred at Layton, on the 16th.

## PRECIPITATION.

The average, 4.41 inches, is 0.76 of an inch above the normal, and 0.07 of an inch below the average for the corresponding month of 1906.

The local departures from the normal ranged from  $-0.85$  of an inch, at Paterson, to  $+3.19$  inches, at Rancocas.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 4.37 inches; Red Sand Stone Plain, 3.73 inches; Southern Interior, 5.19 inches; Sea Coast, 4.58 inches.

The greatest amount, 6.85 inches, occurred at Moorestown, and the least, 3.15 inches, at Jersey City.

The greatest amount in 24 consecutive hours, 2.58 inches, occurred at Clayton, on the 29th-30th.

Measurable amounts of rain occurred on an average of 10 days.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 12; partly cloudy, 10; cloudy, 8. At Atlantic City the duration of sunshine was 57 per cent of the possible amount, and at Jersey City (estimated), 57 per cent. Sunshine was slightly below the normal.

## WIND.

Southwest winds prevailed. At Atlantic City the total movement was 5,669 miles; average hourly velocity 7.9 miles; highest velocity, 33 miles per hour, from the east, on the 2d. At

Jersey City the total movement was 7,501 miles; average hourly velocity, 10.4 miles; highest velocity, 47 miles per hour, from the northeast, on the 2d. High winds were reported on the 1st and 2d.

#### MISCELLANEOUS PHENOMENA.

*Aurora*.—Somerville, 19th.

*Halo, lunar*.—Asbury Park, 22d; Trenton, 16th, 22d.

*Solar Halos*.—Cape May, 28th; Indian Mills, 7th; Jersey City, 1st, 11th, 13th; Moorestown, 5th, 7th; Rancocas, Vineland, 7th.

*Hail*.—Clayton, Friesburg, Imalaystown, Indian Mills, Moorestown, Rancocas, 5th; Asbury Park, Bayonne, Bergen Point, Canton, 26th.

*Thunderstorms* (dates and number of reports).—5th, 28; 6th, 1; 20th, 7; 21st, 9; 25th, 5; 26th, 30; 27th, 3; 30th, 1. Thunderstorms occurred at Weather Bureau stations as follows: Atlantic City, 5th, 6th, 26th; Cape May, 5th, 14th, 25th, 26th. Total number of reports, 91.

*Fog*.—Atlantic City, 19th, 21st, 22d, 23d, 24th, 29th; Asbury Park, 19th, 23d, 24th; Bayonne, 24th, 25th; Beverly, 13th, 22d; Cape May, 2d, 14th, 19th, 22d, 23d, 24th; Culver's Lake, 24th, 29th; Hightstown, 22d, 24th; Imalaystown, 22d; Jersey City 23d, 24th; Lambertville, 22d, 24th, 25th; Moorestown, Oceanic, Phillipsburg, 24th; Somerville, 21st; Trenton, 24th; Tuckerton, 19th, 22d, 23d; Vineland, 23d; Woodbine, 23d, 24th.

#### REMARKS BY OBSERVERS.

**SOUTH ORANGE:** With two exceptions (1881 and 1903), the mean temperature for the current June is the lowest on record for this month in a period of 38 years.—W. J. Chandler.

**RANOCAS:** A heavy fall of hail occurred on the afternoon of the 5th. Hailstones were unusually large, and remained on the ground until the forenoon of the 6th.—Spencer Haines.

**DOVER:** The first half of the month was exceptionally cool, but during the latter half the temperature was generally seasonable, and the prevailing conditions were favorable for the advancement of vegetation.—W. C. Harris.

**NEW BRUNSWICK:** The mean temperature, 64.4°, is the lowest on record for June in a period of 51 years, the mean for June, 1881, having been 65.0°, and for June, 1903, 65.2°. The mean temperatures for June, 1862 and 1863, were also exceptionally low.—W. T. Woerner.

**PHILLIPSBURG:** After the 15th the daily mean temperatures averaged slightly above the normal, a marked temperature deficiency having occurred thruout the first half of the month. Droughty conditions during the greater part of the second and third decades were relieved, at the close of the month, by a rainfall of about 1.25 inches.—D. W. Smith.

**MOORESTOWN:** The minimum temperature record for June was lowered on the 13th, when the temperature fell to 41°. A new record for low monthly mean temperature, covering a period of 45 years, has also been established, 64.8°, the mean for the current June being a fraction of a degree lower than the mean for the abnormally cool June of 1903.—John C. Beans.

#### TEMPERATURE DATA FOR BRIDGETON, N. J.

##### MONTHLY AND ANNUAL MEAN TEMPERATURES.

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1887.	31	38	†37	†48	68	72	*82	74	165	56	44	37	54
1888.	30	39	†37	51	63	75	74	76	66	†53	49	37	54
1889.	39	33	44	55	66	73	77	74	67	54	44	*44	56
1890.	*44	*44	42	53	65	70	77	75	68	57	47	35	*57
1891.	38	42	40	55	†62	72	†73	75	71	55	45	43	56
1892.	34	37	†37	52	63	*77	77	76	66	55	44	33	54
1893.	†25	35	41	53	63	74	78	76	67	58	45	39	54
1894.	39	36	49	53	66	74	79	74	72	58	44	38	*57
1895.	33	27	41	53	63	75	74	78	*73	†53	48	41	55
1896.	33	36	38	*57	*69	71	79	77	68	55	51	34	56
1897.	32	37	46	54	64	71	78	75	69	58	47	39	56
1898.	37	36	49	51	63	74	79	78	72	60	44	36	*57
1899.	33	28	42	53	64	76	78	75	67	58	46	37	55
1900.	36	33	38	53	64	74	80	*79	*73	*62	50	36	*57
1901.	34	29	44	50	†62	73	78	78	69	56	†41	35	54
1902.	31	30	47	52	64	72	77	74	68	59	*52	35	55
1903.	33	37	*50	53	66	†67	77	†72	68	58	42	31	55
1904.	27	27	41	50	66	72	76	74	68	55	43	†29	†52
1905.	30	†26	44	53	66	72	77	75	68	59	44	38	54
1906.	39	34	38	55	65	74	75	77	71	57	46	36	56
M'ns	34	34	42	53	65	73	77	76	69	57	46	37	55

\* Highest on record.

† Lowest on record.

Annual mean temperature, 55.2°.

Highest annual mean, 56.9°, 1890; lowest annual mean, 52.5°, 1904; range of annual mean temperature, 4.4°.

Highest monthly mean, 82.0°, July, 1887; lowest monthly mean, 24.7°, January, 1893; range of monthly mean temperature, 57.3°.

Highest temperature, 104°, July 2, 1901.

Lowest temperature, —7°, February 11, 15, 1899. January 6, 1904.

Range of temperature, 111°.

Greatest annual range, 108°, 1899; least annual range, 78°, 1891.

Average temperature for spring, 53°; summer, 75°; autumn, 57°; winter, 35°.

Mean temperature for the mildest spring, 1903, 56°; for the warmest summer, 1900, 78°; for the warmest autumn, 1900, 62°; for the mildest winter, 1889–90, 44°.

Mean temperature for the coldest spring, 1888 (also 1907), 50°; for the coolest summer, 1903, 72°; for the coldest autumn, 1887 (also 1889), 55°; for the coldest winter, 1904–5, 28°.

Average date of last killing frost in spring, April 19; of first killing frost in autumn, October 22; length of the season, 185 days.

#### COMPARATIVE STATE DATA FOR JUNE.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1887.....	68.2	97	42	6.77
1888.....	70.8	104	38	2.59
1889.....	69.9	92	37	3.73
1890.....	70.7	95	42	3.59
1891.....	69.7	102	38	2.92
1892.....	72.4	98	44	3.85
1893.....	69.7	103	40	2.95
1894.....	70.6	102	35	2.28
1895.....	71.7	103	39	3.24
1896.....	68.1	97	37	5.46
1897.....	66.1	95	35	3.38
1898.....	70.1	100	38	2.10
1899.....	72.3	103	38	2.50
1900.....	70.4	97	39	3.08
1901.....	70.0	103	35	1.57
1902.....	67.5	99	37	6.57
1903.....	64.0	92*	37	7.68
1904.....	68.6	100	34	3.13
1905.....	68.3	96	35	3.43
1906.....	70.4	98	38	4.48
1907.....	64.7	96	31	4.41



CLIMATOLOGICAL DATA FOR JUNE, 1907.																				
Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing direction of wind.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.			Number cloudy days.
THE HIGHLANDS & KITTAPING VAL.																				
Layton	Sussex	550	8	62.3	−3.3	80	22	33	13	42	4.14	−0.19	1.50	0	9	19	7	4	s.	Warren C. Hursh.
Sussex	do	442	13	63.8	−3.6	88	22	37	13	40	4.07	−0.07	1.32	0	9	18	8	4	sw.	Prof. W. H. Seeley.
Culver's Lake	do	678	27	63.1	−5.5	90	25	36	13	39	5.02	−0.88	1.47	0	10	17	6	3	s.	B. E. Riker.
Newton	do	719	15	61.4	−3.8	88	25	31	13	40	4.77	+0.88	1.71	0	11	21	6	5	s.	Brice Bowman.
Charlotteburg	Passaic	195	4	61.4	−3.8	88	25	31	13	40	5.68	+1.63	1.61	0	9	18	7	5	w.	G. S. Briggs.
Pompton Plains	Morris	413	8	63.0	−4.4	90	*22	37	13	38	4.61	−0.17	1.04	0	13	.....	.....	.....	n.	River & Flood Service.
Boonton	do	413	8	63.0	−4.4	90	*22	37	13	38	3.51	+0.17	1.01	0	11	.....	.....	.....	nw.	River & Flood Service.
Dover	do	575	23	63.0	−4.4	90	*22	37	13	38	4.09	−0.08	1.25	0	9	1	19	10	.....	William C. Harris.
Belvidere	Warren	280	17	65.2	−4.3	93	22	40	13	39	3.99	−0.24	1.94	0	8	20	1	9	.....	Samuel J. Hixson.
Phillipsburg	do	196	5	65.6	−4.5	92	22	40	13	36	3.83	−0.10	1.78	0	10	15	6	9	sw.	D. W. Smith.
District averages.				63.5	−4.4						4.37	+0.48			10	16	8	6		
THE RED SAND STONE PLAIN.																				
Mahwah	Bergen	70	16	61.6	−6.2	92	25	34	13	41	3.53	−0.19	1.25	0	10	13	8	9	sw.	River & Flood Service.
River Vale	do	110	31	66.5	−3.8	94	*25	43	13	39	3.30	−0.85	0.92	0	12	6	19	5	sw.	G. S. M. Holdrum.
Paterson	Passaic	135	17	65.2	−2.7	89	*25	43	2	33	3.52	−0.29	0.82	0	11	9	9	12	e.	H. A. Probert.
Englewood	Bergen	175	4	61.6	−4.6	94	*25	41			3.68	.....	1.01	0	11	.....	.....	.....	w.	William C. Tucker.
Little Falls	Passaic	200	38	64.6	−4.6	94	*25	41	*13	36	3.67	+0.18	0.94	0	8	13	8	9	w.	W. J. Chandler, M. D.
South Orange	Essex	234	4	65.5	−4.3	92	25	44	1	32	4.37	+0.75	1.49	0	11	1	23	6	w.	River & Flood Service.
Chatham	Morris	140	65	66.2	−2.3	88	25	45	2	28	3.29	−0.03	1.01	0	11	10	13	7	se.	Wm Wiener.
Newark	Essex	314	37	66.2	−2.3	88	25	45	2	28	3.29	−0.03	1.01	0	11	10	13	7	se.	U. S. Weather Bureau.
New York, N. Y.	New York	15	2	66.5	.....	89	25	46	2	33	3.15	.....	0.87	0	11	10	9	11	se.	Samuel K. Pearson, Jr.
Bayonne	do	50	17	64.9	−5.1	92	25	44	13	31	3.70	−0.02	1.02	0	10	11	12	7	w.	John H. Eadie.
Bergen Point	do	37	10	65.4	−3.6	90	*25	45	2	32	3.95	−0.04	1.10	0	10	9	15	6	se.	Dr. W. H. Mitchell.
Elizabeth	Union	33	28	67.0	−4.1	96	26	46	13	27	3.82	+0.13	1.20	0	9	.....	.....	.....	.....	W. M. Oliver.
Plainfield	do	100	17	64.8	−4.5	92	25	44	*1	35	3.31	−0.74	1.03	0	10	12	11	7	sw.	John Neagle.
Somerville	Somerset	76	28	65.1	−4.7	93	25	38	13	38	3.57	−0.42	1.25	0	10	12	8	10	sw.	Peter Hardcastle.
Flemington	Hunterdon	187	10	64.8	−5.0	91	*22	39	13	34	4.16	+0.36	1.62	0	9	17	6	7	w.	H. E. Deats.
New Brunswick	Middlesex	61	54	64.4	−5.2	91	25	38	13	37	3.70	−0.16	1.05	T. 8	21	3	6	6	w.	Wm. T. Woerner.
College Farm	do	100	12	64.2	−4.8	90	25	39	13	34	3.44	+0.11	1.04	0	10	20	5	5	s.	George G. Manning.
Lambertville	Hunterdon	95	21	65.6	−4.8	91	22	40	13	35	5.21	+0.91	1.75	0	9	14	9	7	sw.	William R. Bowne.
District averages.				65.1	−4.4						3.73	0.00			10	12	10	8		
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	16	64.2	−5.7	89	25	39	13	31	4.44	+0.71	1.37	0	9	10	10	10	sw.	Ernst Wenger.
Trenton	do	60	38	65.8	−5.8	90	25	41	13	29	5.26	+1.47	1.15	0	9	2	24	4	sw.	E. R. Cook.
Imlaystown	Monmouth	106	21	65.6	−5.4	94	22	45	*1	36	5.22	+1.47	1.28	0	10	14	10	6	sw.	F. C. Price, M. D.
Lakewood	Ocean	54	7	65.7	−5.2	93	26	41	13	32	5.20	+1.56	1.98	0	10	3	19	8	sw.	C. A. Roe.
Beverly	Burlington	30	23	65.7	−5.2	93	26	41	13	32	5.20	+1.56	1.98	0	10	3	19	8	sw.	C. F. Richardson.
Rancocas	do	68	22	64.6	−5.1	94	25	45	13	.....	6.64	+3.19	2.20	0	10	11	7	12	sw.	Spencer Haines.
Moorestown	do	71	43	64.8	−5.6	91	22	41	13	32	6.85	+3.15	2.23	0	10	14	6	10	w.	John C. Beans.
Philadelphia, Pa.	Philadelphia	117	37	66.8	−4.4	89	25	46	2	29	4.66	+1.36	1.63	0	11	7	7	16	sw.	U. S. Weather Bureau.
Toms River	Ocean	33	16	65.2	−3.9	94	25	37	13	37	4.73	+0.52	1.66	0	10	14	10	6	sw.	F. G. Bunnell.
Indian Mills	Burlington	76	7	65.2	−3.9	94	25	37	13	37	4.73	+0.52	1.66	0	10	14	10	6	e.	James Armstrong.
Clayton	Gloucester	126	11	64.6	−5.1	90	22	42	13	30	4.00	+2.69	2.58	0	9	19	1	10	se.	Wm. T. Farley.
Tuckerton (†)	Ocean	23	10	63.6	−5.2	87	25	40	13	31	4.27	−0.03	1.15	0	11	12	10	8	se.	F. R. Austin.
Friesburg	Salem	100	15	64.5	−5.5	89	*25	40	13	33	5.09	+1.19	1.73	0	13	4	19	7	w.	H. C. Perry.
Vineland	Cumberland	118	40	65.2	−6.8	92	*25	41	13	33	5.33	+1.78	1.90	0	11	9	16	5	sw.	Alfred Chalmers.
Canton	Salem	24	6	66.9	−6.4	95	25	43	13	34	4.86	+1.20	1.75	0	10	12	10	8	sw.	J. H. Maskell.
Bridgeton	Cumberland	30	21	66.9	−6.4	95	25	43	13	34	4.86	+1.20	1.75	0	10	12	10	8	ne.	Henry A. Jorden.
Pleasantville	Atlantic	26	10	64.8	−4.0	91	25	42	13	36	5.53	−2.40	1.97	0	11	15	7	8	.....	L. Van Gilder.
Woodbine	Cape May	43	16	64.8	−4.0	91	25	42	13	36	5.53	−2.40	1.97	0	10	22	2	6	w.	Arthur R. Merrill.
Cape May C. H. (a)	do	19	20	65.0	−4.8	88	*25	44	13	28	4.87	+2.35	1.54	0	12	8	13	9	e.	L. T. Garretson.
District averages.				65.3	−5.4						5.19	+1.68			10	11	10	9		
THE SEA COAST.																				
Oceanic	Monmouth	16	21	64.6	−5.3	90	*25	44	13	33	3.81	−0.19	1.22	0	14	13	12	5	se.	Prof. C. E. Dietz.
Asbury Park	do	22	19	62.2	−6.4	85	17	46	*2	26	5.28	+1.40	1.42	T. 11	14	9	7	7	se.	B. H. Obert.
Atlantic City	Atlantic	16	32	62.4	−4.4	82	17	47	2	23	3.80	−0.80	1.46	0	12	5	11	14	s.	Section Center.
Cape May City	Cape May	17	14	62.5	−5.2	81	25	48	*2	24	5.43	+2.39	1.76	T. 13	8	13	9	9	e.	U. S. Weather Bureau.
District averages.				62.9	−5.3						4.58	+1.10			12	10	11	9		

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

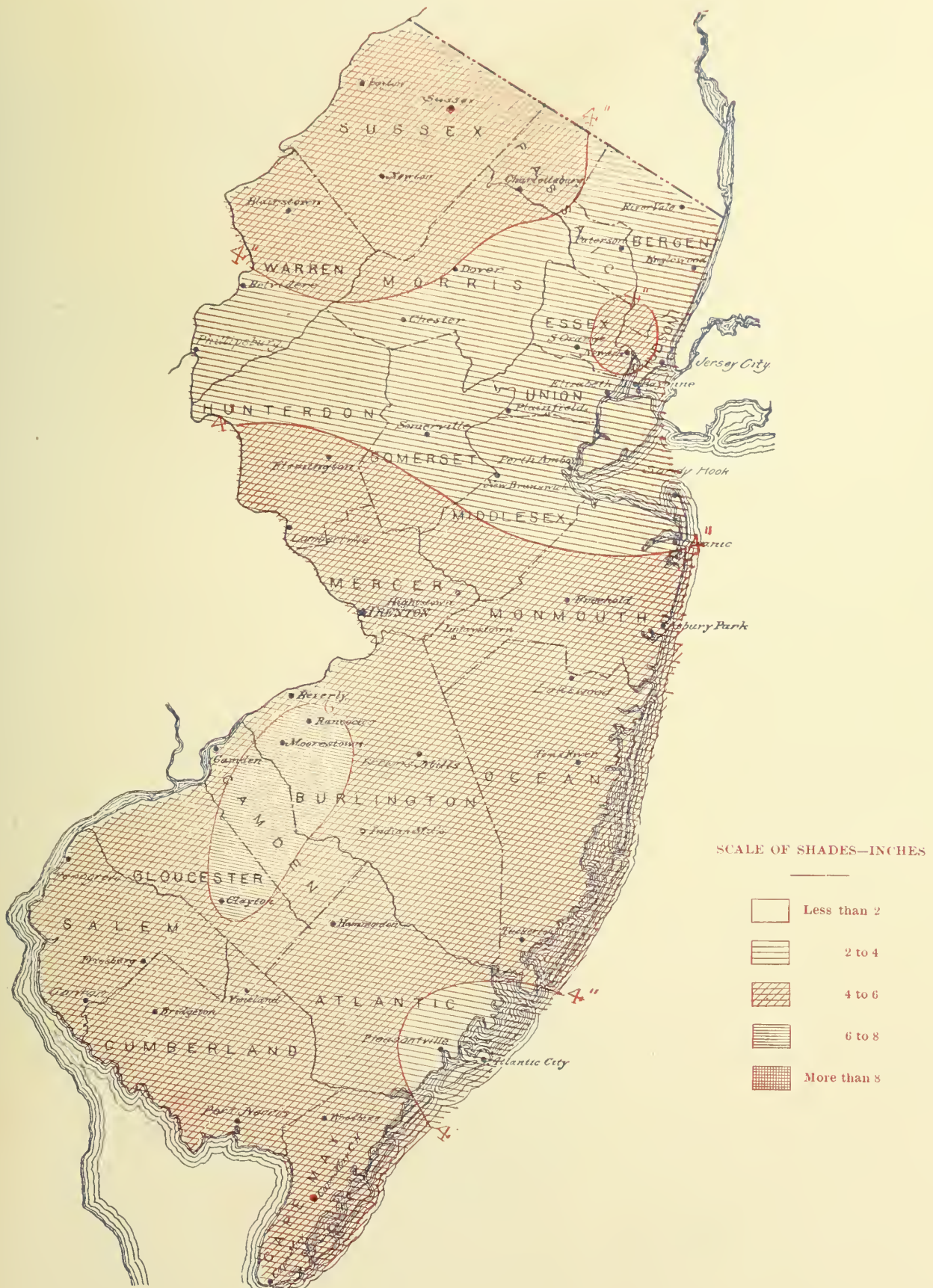
† Not considered in averages.

‡ Incomplete.





# Total Monthly Precipitation, June, 1907.



## TOTAL PRECIPITATION FOR JUNE, 1907.

Stations.	Day of month.																															Total.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
THE HIGHLANDS & KITTA-TINNY VALLEY.																																	
Layton	1.50	.04			.31									.56							.60					.17				.25	.59	4.	
Sussex	1.32	.11			.46							T.	.26								.70				T.	.15	.10		.25	.72		4.	
Culver's Lake	1.47	.03			.37							.01	T.	.56							.68				.23	.54			.41	.72		5.	
Newton	1.71	.04			.57	.01							T.	.49							.48				.2	.10	.23		.25	.65		4.	
Charlottesville	*	1.61			.55									.85							* 1.38					.24				* 1.00		5.	
Pompton Plains	.01	.76	.44		.17	1.04	T.							.10	.78					*	.18				*	.30		.02	.81		4.		
Boonton	*	.85	.32		.15	.43								.13	.17					*	.06				*	.03	.34		.02	1.01		3.	
Dover	*	1.25			.41							*	.30								.32					.30			1.00	.51		4.	
Belvidere	*	1.94			.42								T.	.13							.15					.15			.54	.66		3.	
Phillipsburg	.09	1.78	T.		.22							T.	T.	.19						*	.22				T.	.05	.02		.56	.68		3.	
THE RED SAND STONE PLAIN.																																	
Mahwah	*		1.10		.40								*	.30						*	.35					.07			1.25	.06		3.	
River Vale	*	.92	.05	*	.37	T.							T.	.61	.09					.15						.09	.06		.15	.87		3.	
Paterson	.19	.82	.07		.31								.07	.79						.07	.03					.18			.57	.42		3.	
Englewood	.02	.78	.42		.11	.25	T.						*	.14	.58					*	.20				*	.15			.02	1.01		3.	
Little Falls	*	1.20			.41							T.	.39							.03						.70			.38	.56		3.	
South Orange		.50	.80	.03	.12	.20						.03	.22	.08							.06				*	.63			.08	.95		3.	
Chatham	.06	1.10	.02	.01	.26								.08	.44						.07						.84			1.04	.45		4.	
Newark	.18	.79	.05		.25								.02	.76						.02	.01					.20			.66	.35		3.	
New York, N. Y.	*	.83	.16		.30								.74							T.	.01					.12	.12		.33	.54		3.	
Jersey City		.81	.04		.27	T.						T.	T.	1.02	.15					.03						.07	.40		.32	.59		3.	
Bayonne		.85	.05		.32							T.	T.	1.10	.05						.03					.10	.45		.38	.62		3.	
Bergen Point	*	1.10			.40							*	.40								.30					.42				1.20		3.	
Elizabeth	.02	1.03	.05		.23								.23	T.							.15					.13	.46		.39	.62		3.	
Plainfield	*	1.25			.21							T.	.25	.02							.28					.61	.10		.30	.55		3.	
Somerville	T.	1.62	.02		.33			T.				T.	.25								.21	.10				.25	.04		.34	1.10		4.	
Flemington	T.	1.05	.05		.18							T.	.90								.21					.35			.25	.71		3.	
New Brunswick	*	1.04	.02		.21								.71	.02							.15					.28			.27	.74		3.	
College Farm	T.	1.75			.31	T.		.06				.05	T.	.31							.19					1.29			.40	.85		5.	
Lambertville																																	
THE SOUTHERN INTERIOR.																																	
Hightstown	*	*	1.02		.44			T.						.32							.07					1.22		*	1.37		4.		
Trenton	.40	1.15			.51			.09				T.		.18							.16					1.12			.85	.80		5.	
Imlaystown	*	1.15	.01		1.20			.03						.36									.02				1.28		*	1.17		5.	
Lakewood																																	
Beverly	.23	1.49	T.		.70			.04				T.	T.	.23	T.					T.	.35				T.	T.	.09	.09	.85	1.13		5.	
Rancocas	.25	1.00	T.		1.40			.03				T.	.01	T.	.23						.25				T.	1.27			1.20	1.00		6.	
Moorestown	.15	1.57	T.	T.	1.34			.08				T.	T.	T.	.31					T.	.18				T.	.92	.07		.89	1.34		6.	
Philadelphia, Pa	.82	.64	T.		.75			.07				T.	.01	.03	.36	T.				T.	.28				T.	.07			1.52	.11		4.	
Toms River																																	
Indian Mills	.15	.95			.35			.14				T.		.51						.05							.83	.06		.49	1.17		4.
Clayton	.10	1.15		.26	.85			.22				T.		.50							.10					1.32	.17		*	2.58		6.	
Tuckerton	*	1.07			.81			.19				*	.12	.46												.32	.16		.57	.32		4.	
Friesburg	.11	1.08	.02		.57	T.		.23				.02		.64						.09	.09					.49	.05		*	1.73		5.	
Vineland	*	1.13			.63			.25				.22		.33							.15					.40	.49		*	1.83		5.	
Canton	.18	.98			.62			.28				.07		.47							.18					.33			*	1.75		4.	
Bridgeton	.09	1.25	.03		.35			.22				.05		.48							.01					T.	.10		.63	.59		3.	
Pleasantville	*	1.57			.10		.20	*				.50		.57							.62					*			*	1.97		5.	
Woodbine																																	
Cape May C. H.	.05	1.54			.17			.32				.11	.01	.19						.10						.03			.54		.67		4.
THE SEA COAST.																																	
Oceanic	*	1.22	.06		.70			.01				.02		.29	.04					T.					.01	T.	.57	.03		.26	.56		3.
Asbury Park	*	1.42	.06		.99			.03					*	.22						T.						1.37	.15		.26	.78		5.	
Atlantic City	.47	.99	T.		.15			.22				.04	T.	.51							.02				T.	.02	.03		1.32	.02		3.	
Cape May City	.33	.73		.02	.12		.02	.23				.15		.01	1.45												.50			1.76	.05		5.

† Precipitation measured at 8 a. m., 75th meridian time.

† Incomplete.

\* Precipitation included in that of following day.

T. Indicates amount too small to measure.



UNNJ  
U. S. DEPARTMENT OF AGRICULTURE

REPORT FOR JULY, 1907.

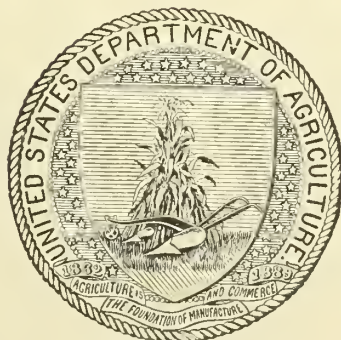
NEW JERSEY SECTION  
OF THE  
CLIMATOLOGICAL SERVICE  
OF THE  
WEATHER BUREAU

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

UNDER DIRECTION OF  
WILLIS L. MOORE  
CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS  
SECTION DIRECTOR



BOSTON, MASS.  
WEATHER BUREAU OFFICE

AUGUST 21, 1907

# Monthly Mean Isotherms and Prevailing Winds, July, 1907.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XX. ATLANTIC CITY, N. J., JULY, 1907. No. 7.

## GENERAL SUMMARY.

July, 1907, was the fourth consecutive month with the mean temperature below the normal, altho the deficiency was much less pronounced than during the three preceding months. Slight excesses in monthly mean temperature were reported over limited areas in the northeastern part of the State, and the most marked deficiencies, ranging from  $2^{\circ}$  to  $3^{\circ}$ , occurred over portions of Bergen and Sussex counties, in the extreme north, and Mercer County, in the west. The month was free from periods of extreme heat, the number of days with maximum temperatures of  $90^{\circ}$ , or higher, being only 5, over much the greater portion of the district. The warmest weather of the month occurred generally from the 17th to the 19th, inclusive. The lowest temperatures were reported generally in the first decade, principally on the 4th and 5th, when, in the northern mountain districts, the minimum temperatures past slightly below  $50^{\circ}$ . The minimum temperatures were also slightly below the seasonal average during the latter part of the third decade. The monthly extremes of temperature were well within the records for July.

The average precipitation for July, 1907, is, with one exception (1894), the least on record for this month in a period of 21 years, the normal rainfall for July being nearly 5 inches. Practically all of the monthly precipitation occurred in the form of local showers and thunderstorms, and the usual irregular geographical distribution resulted. Less than 2 inches of rain were received over a large part of the Highlands and Kittatinny Valley and the Red Sand Stone Plain divisions, in the north, and over portions of Atlantic, Cumberland and Ocean counties, in the south, the local deficiencies thruout the sections named ranging from about 2 to nearly 5 inches. The regions of heaviest precipitation included portions of Burlington, Middlesex, Monmouth, Salem and Somerset counties, where the monthly amounts, ranging from 4 to about 6.50 inches, were for the most part about the normal. Local storms of marked severity occurred in Hunterdon County on the 7th, in Cape May County on the 7th and 12th, in Burlington County on the 7th and 8th, and thruout the central part of the State with excessive precipitation at several stations on the 18th and 20th. In some of the storms washing rains were injurious

to land and roads, tender vegetation was prostrated by hail, and buildings were struck, and destroyed, by lightning.

At the close of the month the need for rain, to relieve the drought existing over most of the northern counties, was urgent. The weather of the month thruout the central and southern portions of the State was generally favorable for agricultural interests.

## TEMPERATURE.

The monthly mean,  $73.6^{\circ}$ , is  $0.7^{\circ}$  below the normal, and  $0.8^{\circ}$  above the mean for the corresponding month of 1906.

The local departures from the normal ranged from  $-3.1^{\circ}$ , at Trenton, to  $+1.6^{\circ}$ , at Newark.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $71.3^{\circ}$ ; Red Sand Stone Plain,  $73.9^{\circ}$ ; Southern Interior,  $74.4^{\circ}$ ; Sea Coast,  $72.5^{\circ}$ .

The highest monthly mean was  $76.0^{\circ}$ , at Bridgeton and Elizabeth, and the lowest,  $69.2^{\circ}$ , at Layton.

The range of monthly mean temperature was  $6.8^{\circ}$ .

The maximum,  $96^{\circ}$ , occurred at Brown's Mills, on the 17th, and the minimum,  $40^{\circ}$ , at Newton, on the 4th.

The range within the State was  $56^{\circ}$ .

The mean daily range was  $20.9^{\circ}$ .

The greatest local monthly range,  $51^{\circ}$ , occurred at Newton, and the least,  $28^{\circ}$ , at Cape May.

The greatest daily range,  $39^{\circ}$ , occurred at Layton and Newton, on the 4th, and at Charlotteburg, on the 5th.

## PRECIPITATION.

The average, 2.62 inches, is 2.37 inches below the normal, and 2.96 inches below the average for the corresponding month of 1906.

The local departures from the normal ranged from  $-4.97$  inches, at Englewood, to  $+0.27$  of an inch, at Canton.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 1.91 inches; Red Sand Stone Plain, 2.31 inches; Southern Interior, 3.25 inches; Sea Coast, 3.02 inches.

The greatest amount, 6.42 inches, occurred at College Farm (Middlesex County), and the least, 0.95 of an inch, at Newark.

The greatest amount in 24 consecutive hours, 4.06 inches, occurred at College Farm, on the 18th.

Excessive precipitation occurred as follows: Asbury Park, 11th, 0.75 of an inch in 25 minutes; Atlantic City, 20th, 0.50 of an inch in 30 minutes; Canton, 7th, 2.70 inches; College Farm, 18th, 4.06 inches in 3 hours, 40 minutes; Rancocas, 18th, 1.50 inches in 45 minutes; Somerville, 18th, 2.50 inches in 2 hours, 15 minutes.

Measurable amounts of rain occurred on an average of 8 days.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 8; partly cloudy, 12; cloudy, 11. The duration of sunshine, expressed as the percentage of the possible amount, was reported as follows, the percentages for cooperative stations being the estimates of the observers: Asbury Park, 64; Atlantic City, 65; Boonton, 78;

Clayton, 77; Flemington, 74; Jersey City, 66; South Orange, 63; average for the State, 70 per cent. Sunshine was about the normal.

## WIND.

Southwest winds prevailed. At Atlantic City the total movement was 5,062 miles; average hourly velocity 6.8 miles; highest velocity, 22 miles per hour, from the south, on the 7th. At Cape May the highest velocity was 30 miles per hour, from the west, on the 11th. At Jersey City the total movement was 7,512 miles; average hourly velocity, 10.1 miles; highest velocity, 40 miles per hour, from the northwest, on the 27th.

## MISCELLANEOUS PHENOMENA.

*Lunar halo.*—Newark, 26th.

*Solar halos.*—Indian Mills, 14th; Moorestown, 13th.

*Fog.*—Asbury Park, 19th, 29th; Atlantic City, 19th, 20th, 30th; Bayonne, 15th, 20th; Beverly, 9th, 15th, 29th, 30th; Clayton, 30th; Hightstown, 15th, 20th, 30th; Indian Mills, 15th, 16th, 20th; Lambertville, Trenton, 20th, 30th; Layton, 16th; Moorestown, 15th, 16th, 23d; Paterson, 12th; Rancocas, 25th, 30th; Tuckerton, 30th; Vineland, 20th.

*Thunderstorms* (dates and number of reports).—2d, 15; 3d, 2; 6th, 7; 7th, 22; 8th, 17; 9th, 7; 10th, 3; 11th, 22; 12th, 11; 16th, 2; 17th, 8; 18th, 22; 19th, 2; 20th, 22; 21st, 2; 22d, 1; 23d, 3; 25th, 2; 26th, 5. Thunderstorms occurred at Weather Bureau stations as follows: Atlantic City, 7th, 8th, 9th, 11th, 20th; Cape May, 1st, 7th, 11th, 18th, 25th. Total number of reports, 185.

## PRECIPITATION DATA FOR BRIDGETON, N. J.

## MONTHLY AND ANNUAL PRECIPITATION.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1887	2.75	3.67	2.76	3.93	2.57	6.95	4.88	4.20	3.66	3.06	1.44	5.05	44.92
1888	2.97	1.98	5.60	2.27	4.07	1.67	2.39	5.49	3.75	5.15	2.71	1.00	40.04
1889	4.03	2.70	6.40	4.96	6.60	4.48	7.06	3.20	3.97	3.01	7.99*	0.67†	56.75
1890	1.71†	3.60	6.59	3.39	3.38	0.99	3.77	6.39	4.99	7.11*	0.58†	5.26	47.76
1891	4.69	6.70	8.02*	2.28	3.05	4.68	9.41	5.12	1.74	3.63	1.67	4.26	55.25
1892	4.05	2.72	5.82	3.58	4.04	1.85	3.48	2.81	1.58	0.55†	6.86	2.47	39.81
1893	3.50	4.48	3.81	4.11	3.53	0.46†	2.90	4.38	3.59	5.35	3.36	3.73	43.20
1894	3.08	5.64	1.55†	4.14	15.61*	2.08	0.38†	2.08	5.23	6.34	3.24	4.33	51.70
1895	4.75*	2.07	4.00	6.25	3.07	5.98	1.53	0.71†	1.25	3.38	2.43	1.92	37.34
1896	1.81	8.36*	5.59	1.11†	3.38	7.58*	3.19	2.55	4.01	2.28	2.37	1.61	43.84
1897	2.33	5.72	3.37	5.06	4.75	4.66	11.03*	5.03	0.49†	3.75	4.10	4.35	55.63
1898	3.98	3.81	3.47	1.93	3.85	8.12	5.34	4.16	2.14	6.72	6.02	1.85	55.69
1899	3.48	3.67	5.47	1.93	2.41	2.57	0.02	6.74	4.96	2.05	1.30	1.91	48.50
1900	3.45	5.14	3.59	2.38	2.53	3.84	2.43	4.18	1.76	6.59	2.85	3.26	42.00
1901	3.43	0.93†	3.51	6.77*	3.23	1.49	5.13	7.93†	4.70	1.80	2.85	6.04*	48.71
1902	3.95	6.27	4.42	4.65	1.70	7.23	4.54	2.55	5.61*	4.61	4.17	6.29	55.99
1903	3.58	6.02	6.70	5.05	0.93†	3.46	6.54	6.64	3.90	6.49	0.94	4.12	54.46
1904	2.16	2.81	3.76	2.86	1.92	1.91	4.35	4.54	3.95	3.25	2.25	4.09	37.88
1905	3.28	3.96	4.58	3.88	3.76	4.51	4.79	5.72	5.55	1.61	1.55	4.88	48.07
1906	3.40	3.39	6.62	2.31	3.15	5.13	5.72	7.38	0.91	3.80	1.89	4.01	47.71
1907	2.89	1.82	3.66	3.09	6.48	4.86	.....	.....	.....	.....	.....	.....	.....
M'ns	3.30	4.17	4.74	3.61	4.20	3.79	4.97	4.59	3.39	4.12	3.04	3.79	47.71

Greatest annual amount, 56.75 inches, 1889.

Least annual amount, 37.34 inches, 1895.

Greatest monthly amount, 15.61 inches, May, 1894.

Least monthly amount, 0.38 of an inch, July, 1894.

Number of months, January, 1887–June, 1907, inclusive, with precipitation more than 10 inches, 2; less than 1 inch, 12.

Number of times that the monthly precipitation has exceeded the normal: January, 12; February, 9; March, 9; April, 10; May, 5; June, 11; July, 8; August, 9; September, 13; October, 8; November, 7; December, 12; total, 113.

Greatest amount in 24 hours, 4.45 inches, May 20–21, 1894.

Excessive precipitation (2.50 inches, or more, in 24 hours, or less): 3.20, August 21, 1888; 2.65, November 15–16, 1892; 2.80, May 18, 1894; 4.45, May 20–21, 1894; 2.60, September 8–9, 1894; 4.40, February, 5–6, 1896; 2.72, June 14, 1896; 2.69, July 28, 1897; 2.72, October 26–27, 1898; 2.89, July 26, 1899; 3.55, August 10–11, 1899 (2.10 in 1 hour); 4.40, October 8–9, 1900; 2.74, August 18–19, 1901; 2.60, November 24, 1901; 3.08, April 8, 1902; 2.66, June 16–17, 1902; 2.62, October 9, 1903; 2.69, June 17, 1906; 2.64, August, 1–2, 1906.

Longest rainy period, May 16–26, 1894, 11 days; total rainfall, 12.07 inches.

Longest periods without measurable precipitation: October 27–November 23, 1905, 28 days; October 16–November 11, 1901, 27 days; February 5–March 3, 1901, 27 days; October 9–November 3, 1892, 26 days.

Average annual number of rain and snow storms, 97; greatest annual number, 115, 1898; least annual number, 82, 1892.

Average precipitation for spring, 12.55 inches; summer, 13.35 inches; autumn, 10.55 inches; winter, 11.26 inches.

Total precipitation for the wettest spring, 1894, 19.30 inches; for the wettest summer, 1897, 21.62 inches; for the wettest autumn, 1898, 14.88 inches; for the wettest winter, 1901–2 17.16 inches.

Total precipitation for the driest spring, 1900, 8.50 inches; for the driest summer, 1894, 4.54 inches; for the driest autumn 1906, 6.60 inches; for the driest winter, 1889–90, 5.98 inches. The wettest spring on record (1894) was followed by the driest summer.

*Snowfall* (1883–1906).—Average monthly amounts: January 5.1 inches; February, 6.0 inches; March, 3.2 inches; April and November, 0.4 of an inch; December, 3.3 inches; average annual amount, 18.4 inches.

Greatest annual amount, 42.0 inches, 1899.

Least annual amount, 2.0 inches, 1889.

Greatest winter amount (December, January and February) 40.0 inches, 1904–5; least winter amount, trace, 1889–90.

Greatest monthly amount, 32.0 inches, February, 1899.

Greatest amount in a single storm, 20.0 inches, February 11, 1899.

## COMPARATIVE STATE DATA FOR JULY.

Year.	Temperature.			Average precipitation
	Mean.	Highest.	Lowest.	
1887	77.1	102	51	7.67
1888	71.1	99	45	3.50
1889	73.4	96	48	10.19
1890	72.5	101	39	5.62
1891	70.1	95	40	5.30
1892	74.3	105	44	4.03
1893	73.9	102	40	2.72
1894	75.7	106	44	1.66
1895	70.9	99	41	4.26
1896	75.0	98	47	5.50
1897	74.1	102	50	11.42
1898	75.3	107	38	4.96
1899	74.7	98	38	5.75
1900	75.9	104	42	4.74
1901	77.3	107	41	5.87
1902	73.0	100	43	4.78
1903	73.3	100	38	5.51
1904	72.3	98	42	4.87
1905	74.4	102	42	4.06
1906	72.8	94	46	5.58
1907	73.6	96	40	2.62



CLIMATOLOGICAL DATA FOR JULY, 1907.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing direction of wind.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 4 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.			Number cloudy days.
THE HIGHLANDS & KEEPAUNNY VAL.																				
Layton	Sussex	550	8	69.2	-2.1	90	*17	41	4	39	1.51	-3.41	0.48	0	9	23	5	3	SW.	Warren C. Harsh.
Sussex	do	442	13	71.2	-1.1	88	*17	48	4	32	2.00	-3.37	1.12	0	6	19	10	2	SW.	Prof. W. H. Seeley.
Culver's Lake	do	848	6								2.16	-2.39	0.64	0	10	21	7	3	S.	B. E. Riker.
Newton	do	678	27	71.2	-1.5	91	*18	40	4	39	1.26	-3.67	0.51	0	8	25	4	2	W.	Brice Bowman.
Charlotteburg	Passaic	719	15	70.0	-0.1	91	20	44	5	39	1.35	-3.67	0.77	0	4	22	8	1	SW.	G. S. Briggs.
Pompton Plains	Morris	195	4								1.07		0.38	0	8				NW.	River & Flood Service.
Boonton	do	413	8								2.53	-2.23	1.01	0	9				NW.	River & Flood Service.
Dover	do	575	23	71.4	-0.3	92	18	48	4	35	2.71	-2.99	1.30	0	7	6	17	8		William C. Harris.
Belvidere	Warren	289	17	73.9	+0.6	92	18	52	*4	33	3.58	-1.80	1.42	0	7	22	7	2		Samuel J. Hixson.
Phillipsburg	do	196	5	74.4	0.0	93	17	51	4	33	0.97	-3.82	0.48	0	10	19	8	4	W.	D. W. Smith.
District averages.				71.3	-0.4						1.91	-3.24								
THE RED SAND STONE PLAIN.																				
Mahwah	Bergen		4								1.99		0.84		7				SW.	River & Flood Service.
River Vale (a)	do	70	16	70.4	-2.1	93	18	46	4	36	1.45	-3.09	0.35	0	7	23	6	2	NW.	G. S. M. Holdrum.
Paterson	Passaic	110	31	74.8	+0.3	93	18	55	*4	31	1.86	-3.62	0.62	0	5	8	20	3	SW.	H. A. Probert.
Englewood	Bergen	135	17	73.4	+0.2	89	*8	57	5	26	1.35	-4.97	0.60	0	6	12	8	11	SE.	William C. Tucker.
Little Falls	Passaic	175	4								1.99		0.67	0	5				W.	River & Flood Service.
South Orange	Essex	200	38	72.6	-0.4	91	18	54	5	27	1.30	-3.92	0.48	0	5	18	7	6	SW.	W. J. Chandler, M. D.
Chatham	Morris	234	4								1.43		0.70	0	9				N.	River & Flood Service.
Newark	Essex	140	65	75.4	+1.0	93	18	55	4	29	0.95	-3.84	0.53	0	4	7	20	4	SW.	Wm. Wiener.
New York, N. Y.	New York	314	37	74.8	+1.3	89	8	61	*5	23	1.18	-3.36	0.55	0	7	8	16	7	S.	U. S. Weather Bureau.
Jersey City	Hudson	15	2	75.8		93	*17	60	*4	26	1.22		0.76	0	7	11	13	7	SW.	Samuel K. Pearson, Jr.
Bayonne	do	50	17	74.4	-0.5	92	*17	58	*4	26	1.58	-3.82	0.60	0	9	14	10	7	W.	John H. Eadie.
Bergen Point	do	37	10	73.8	-0.7	91	17	56	*5	27	1.60	-3.91	0.56	0	8	9	20	2	SW.	Dr. W. H. Mitchell.
Elizabeth	Union	33	28	76.0	+0.5	93	*19	59	*4	26	1.29	-4.41	0.64	0	5	27	3	1		W. M. Oliver.
Plainfield	do	100	17	73.0	-1.5	92	*17	52	5	31	2.26	-3.83	1.15	0	8	12	16	3	SW.	John Neagle.
Somerville	Somerset	76	28	74.2	0.0	94	18	52	5	32	4.33	-0.73	2.50	0	9	15	13	3	SW.	Peter Hardeste.
Flemington	Hunterdon	187	10	74.1	-1.1	94	19	52	4	33	3.74	-1.73	2.15	0	10	20	7	4	W.	H. E. Deats.
New Brunswick	Middlesex	61	54	73.0	-1.3	92	19	50	5	34	4.58	-0.49	2.00	0	5	25	4	2	W.	Wm. T. Woerner.
College Farm	do	100	12	73.0	-1.9	93	18	51	5	31	6.42	0.00	4.06	0	7	23	6	2	S.	George G. Manning.
Lambertville	Hunterdon	95	21	74.0	-0.5	92	18	53	4	30	3.34	-1.93	1.21	0	8	22	8	1	SW.	William R. Bowne.
District averages.				73.9	-0.4						2.31	-2.91								
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	16	74.0	-1.0	92	*17	52	5	33	3.40	-2.12	0.92	0	8	17	8	6	SW.	Ernst Wenger.
Trenton	do	60	38	74.0	-3.1	92	18	56	5	26	3.74	-1.74	1.05	0	7	3	24	4	SW.	E. R. Cook.
Imlaystown	Monmouth	106	21	74.2	-1.0	94	17	53	4	30	3.04	-1.98	1.25	0	7	19	10	2	SW.	F. C. Price, M. D.
Lakewood	Ocean	54	7																	Geo. A. MacBean.
Burlington	Burlington	12									3.62		1.52	0	8					D. S. B. McCoy.
Beverly	do	30	23	74.2	-1.1	92	*17	53	5	29	4.60	-0.48	1.71	0	12	7	19	5	W.	C. F. Richardson.
Rancocas	do	68	22			94	18	57	5		3.88	-1.66	1.50	0	9	15	7	9	SW.	Spencer Haines.
Brown's Mills	do	71	1			96	17	51	28	36				0						M. W. Hargrove.
Moorestown	do	71	43	73.3	-1.6	90	18	53	5	28	4.45	-0.17	1.42	0	12	15	9	7	W.	John C. Beans.
Philadelphia, Pa.	Philadelphia	117	37	76.9	+1.1	93	25	61	4	24	3.90	-0.43	1.66	0	9	7	10	14	SW.	U. S. Weather Bureau.
Toms River	Ocean	33	16																	F. G. Bunnell.
Burlington	Burlington	76	7	74.2	-1.5	94	25	51	*4	36	3.06	-1.05	1.15	0	10	18	12	1	NW.	James Armstrong.
Clayton	do	126	11	74.0	-1.4	91	25	53	*5	29	2.30	-2.70	0.61	0	8	25	3	3	W.	Wm. T. Farley.
Tuckerton	Ocean	23	10	73.8	-1.0	92	*8	53	*3	28	1.13	-2.73	0.41	0	6	15	16	0	SW.	F. R. Austin.
Friesburg	Salem	100	15	74.2	-1.7	91	8	50	4	32	3.33	-1.18	0.87	0	10	6	24	1	W.	H. C. Perry.
Vineland	Cumberland	118	40	75.0	-1.5	93	*11	53	*4	30	1.78	-2.85	0.71	0	6	14	15	2	SW.	Alfred Chalmers.
Canton	Salem	24	6								5.33	+0.27	2.70	0	10	21	7	3		J. H. Maskell.
Bridgeton	Cumberland	30	32	76.0	-1.2	95	25	54	4	31	2.72	-2.25	1.52	0	7	22	6	3	W.	Henry A. Jorden.
Pleasantville	Atlantic	26	10								1.73	-2.60	0.55	0	7	21	8	2		L. Van Gilder.
Woodbine	Cape May	43	16	73.8	0.0	90	*8	51	4	33	3.04	-1.06	1.71	0	5	27	3	1	W.	Arthur R. Merrill.
Cape May C. H.	do	19	20	73.9	-0.2	90	11	54	4	26	3.49	-0.78	1.13	0	6	10	18	3	SW.	L. T. Garretson.
District averages.				74.4	-1.2						3.25	-1.65								
THE SEA COAST.																				
Oceanic	Monmouth	16	21	73.7	-0.9	92	17	57	5	24	3.08	-3.03	1.20	0	10	24	6	1	NW.	Prof. C. E. Dietz.
Asbury Park	do	22	19	72.1	-0.7	88	*25	57	27	24	4.06	-1.38	1.54	0	9	14	13	4	W.	B. H. Obert.
Atlantic City	Atlantic	16	32	72.2	-0.3	91	8	59	27	24	1.57	-2.21	0.53	0	6	5	14	12	SW.	Section Center.
Cape May City	Cape May	17	14	72.1	-1.3	88	*8	60	4	22	3.38	-0.40	1.17	0	8	9	20	2	S.	U. S. Weather Bureau.
District averages.				72.5	-0.8						3.02	-1.76								

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date. † Not considered in averages. ‡ Incomplete.

THE AREA CONTAINING



# Total Monthly Precipitation, July, 1907.



## TOTAL PRECIPITATION FOR JULY, 1907.

Stations.	Day of month.																															Total.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
THE HIGHLANDS & KITTA-TINNY VALLEY.																																	
Layton.....		.12						.20	.30		.48	.04					.01			.04	.15	.17										1.	
Sussex.....		.06								1.12	.04						.48			.07	.23												2.
Culver's Lake.....		.43				T.		.13		.45	.07						.64	.13		.08	.18	.01			.04								1.
Newton.....		.22				.03				.23	.05						.06	.14		.51						.02							1.
Charlotteburg.....		.09	.04							.77										.45					T.	T.							1.
Pompton Plains   .....		.04	.05			T.	T.	T.		.02	.32						T.	.38		*	.22					T.	.01		T.				2.
Boonton  .....	.03	.03	.84			T.	.01	.02		.02	1.01						*	.10	T.	T.	.45					T.	.01				.01		2.
Dover.....		.50					.09			1.30							.21	.06		.50						.05							2.
Belvidere.....		.42								1.42	.11						.05	.89		.59										.10			2.
Phillipsburg.....		T.				T.		.03			.03	.16				.01	.13	.05		.48		.01				.04				.03			3.
																																	0.

|| Precipitation measured at 8 a. m., 75th meridian time.  
† Incomplete.

\* Precipitation included in that of following day.

T. Indicates amount too small to measure.



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U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR AUGUST, 1907.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

UNDER DIRECTION OF

WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.

WEATHER BUREAU OFFICE

SEPTEMBER 20, 1907

# Monthly Mean Isotherms and Prevailing Winds, August, 1907.





U. S. DEPARTMENT OF AGRICULTURE,  
**CLIMATOLOGICAL SERVICE**  
OF THE  
**WEATHER BUREAU.**

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,  
LEVI A. JUDKINS, Section Director.

VOL. XX. ATLANTIC CITY, N. J., August, 1907. No. 8.

**GENERAL SUMMARY.**

August, 1907, was the fifth consecutive month with temperature below the normal, other features being absence of periods of extreme heat, cool nights, generally deficient precipitation, light wind movement, and high percentage of sunshine. The mean temperature is the lowest reported for August since 1903, and the average precipitation the least for this month since 1900. The monthly maximum and minimum temperatures were well within the records of previous years.

The mean temperature ranged from 66°, in the northwestern portion of Sussex County, to 73°, in portions of Cumberland County, and was below the normal at all stations. The most marked deficiency in mean temperature occurred over the southern portion of the district, altho pronounced departures below the normal were reported in some of the north-central counties. During the first and second decades the temperature averaged nearly the normal, altho the nights were somewhat cooler than usual. The highest temperatures of the month occurred, as a rule, on the 8th and 12th, very few maximum temperatures of 90°, or over, being reported after the latter-named date. The third decade was, on the whole, abnormally cool, the deficiency in mean temperature averaging about 4° per day. The coolest weather of the month occurred during the closing days, when the maximum temperatures, generally, were less than 80°, and the minimum temperatures past below 50° over the greater portion of the interior.

The precipitation during August, 1907, greatly exceeded the normal over limited portions of Burlington, Cape May and Ocean counties, in the south, and was decidedly below the average elsewhere, the deficiency over the northern half of the State, and in portions of Cumberland and Salem counties, in the southwest, averaging slightly more than 2.50 inches. Severe drought prevailed over most of the northern counties until about the middle of the third decade, when this condition was materially lessened by the occurrence of moderately heavy showers, altho portions of Bergen, Middlesex and Sussex counties received less than 2 inches of rain during the entire month. The geographical distribution of precipitation in the south was very irregular, portions of Burlington and Ocean counties receiving more than 7 inches of rain, and portions of Cumberland, Mercer and Salem counties less than 3 inches. The local character of the precipitation during the month is shown by the fact that the number of days with measurable rainfall ranged

from 5 to 20, the only days without rain somewhere in the State being the 11th, 15th, 19th, 26th, 29th, and 31st. The month was comparatively free from local storms of severity, altho in the vicinity of Moorestown, Burlington County, many residences and barns were struck, and some destroyed, by lightning, during the night of the 8th-9th.

TEMPERATURE.

The monthly mean, 70.5°, is 1.9° below the normal, and 4.1° below the mean for the corresponding month of 1906.

The local departures from the normal ranged from -0.4°, at Charlotteburg, to -3.9°, at Trenton.

The means for the various districts were as follows: The Highlands and Kittatinny Valley, 68.1°; Red Sand Stone Plain, 70.7°; Southern Interior, 71.3°; Sea Coast, 70.4°.

The highest monthly mean was 73.2°, at Bridgeton, and the lowest, 65.8°, at Layton.

The range of monthly mean temperature was 7.4°.

The maximum, 96°, occurred at Friesburg, on the 8th, and the minimum, 39°, at Layton, on the 15th and 30th, and at River Vale, on the 30th.

The range within the State was 57°.

The mean daily range was 20.8°.

The greatest local monthly range, 56°, occurred at Layton, and the least, 28°, at Atlantic City.

The greatest daily range, 46°, occurred at Layton, on the 20th.

PRECIPITATION.

The average, 3.45 inches, is 1.31 inches below the normal, and 2.50 inches below the average for the corresponding month of 1906.

The local departures from the normal ranged from -3.22 inches, at New Brunswick, to +2.91 inches, at Rancocas.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 2.72 inches; Red Sand Stone Plain, 2.67 inches; Southern Interior, 4.42 inches; Sea Coast, 4.43 inches.

The greatest amount, 7.61 inches, occurred at Rancocas (7.58 inches at Tuckerton), and the least, 1.79 inches, at New Brunswick.

The greatest amount in 24 consecutive hours, 3.06 inches, occurred at Rancocas, on the 24th.

Excessive precipitation occurred as follows: Atlantic City, 9th, 0.77 of an inch in 38 minutes; Beverly, 24th, 0.85 of an inch in 40 minutes; Boonton, 24th, 1.90 inches in 90 minutes; Cape May, 1st, 2.60 inches; Newark, 24th, 2.52 inches (1.50 inches in 75 minutes); Rancocas, 24th, 3.06 inches; Tuckerton, 21st, 2.60 inches.

Measurable amounts of rain occurred on an average of 10 days.

SUNSHINE AND CLOUDINESS.

The average number of clear days was 14; partly cloudy, 12; cloudy, 5. The duration of sunshine, expressed as the percentage of the possible amount, was reported as follows, the percentages for cooperative stations being the estimates of the observers: Asbury Park, 56; Atlantic City, 63; Boonton, 69; Clayton, 64; Hightstown, 56; Jersey City, 65; Little Falls, 62; Marksboro (Warren County), 74; Newark, 63; Oceanic, 69;

Phillipsburg, 73; Plainfield, 78; average for the State, 66 per cent.

## WIND.

Southwest winds prevailed. The wind movement during the month was exceptionally light.

## MISCELLANEOUS PHENOMENA.

*Hail*.—Rancocas, 21; Woodbine, 1.

*Meteors*.—Beverly, 11, 14; Rancocas, 11; Trenton, 10, 13.

*Solar Halos*.—Atlantic City, 16; Cape May, 24; Indian Mills, 5, 16, 23; Rancocas, 22, 23.

*Thunderstorms* (dates and number of reports).—1st, 9; 2d, 6; 3d, 3; 4th, 1; 7th, 1; 8th, 2; 9th, 19; 13th, 13; 17th, 2; 18th, 6; 19th, 1; 21st, 11; 22d, 1; 24th, 21; 25th, 2. Thunderstorms occurred at Weather Bureau stations as follows: Atlantic City, 1, 3, 4, 9, 13, 18, 21; Cape May, 1, 3, 9, 21. Total number of reports, 109.

*Fog*.—Asbury Park, 2; Atlantic City, 2, 10, 11; Bayonne, Canton, 7; Beverly, 2, 8, 23, 27; Boonton, 2, 11, 21; Cape May, 1, 9, 10, 11, 14, 18, 21, 27, 30; Hightstown, 2, 7, 11, 12, 13, 18, 21, 23, 25; Inlaystown, Trenton, Tuckerton, 12; Jersey City, Woodbine, 11; Lambertville, 23; Mahwah, 2, 21; Moorestown, 7, 11, 12, 23, 26; Newark, Rancocas, 2, 11; Oceanic, 18; Phillipsburg, 7, 11, 12; Pompton Plains, 2, 10, 11, 21; Somerville, 25; Vineland, 11, 12.

## COMPARATIVE DATA FOR THE SUMMER OF 1907.

The mean temperature for the summer of 1907, closing with August, is 69.6°, or 2.5° below the normal, this being 3.0° lower than the mean for the summer of 1906, and 1.0° higher than the mean for the abnormally cool summer of 1903. The total precipitation, 10.48 inches, is 2.92 inches below the average for summer, and 5.53 inches below the total for the corresponding season of 1906, the current summer being the fourth driest in a period of 21 years.

## TEMPERATURE DATA FOR BEVERLY, BURLINGTON COUNTY, N. J.

## MONTHLY AND ANNUAL MEAN TEMPERATURES.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1885	.....	.....	.....	.....	.....	.....	77	72	64	54	44	35	.....
1886	27	28	38	51	58	68	73	72	68	56	44	†28	†51
1887	28	35	†34	48	65	70	78	71	†62	53	41	34	52
1888	26	32	†34	49	60	71	72	73	64	†50	46	36	†51
1889	36	27	40	52	62	70	73	†70	64	†50	45	54†	52
1890	*37	*40	38	51	61	71	72	†70	64	53	42	30	52
1891	35	39	39	53	60	71	†71	73	70	53	42	40	54
1892	30	34	35	50	61	74	75	74	66	51	43	31	52
1893	†22	31	38	51	61	72	76	75	65	57	42	35	52
1894	35	31	47	51	63	72	78	73	70	57	41	36	54
1895	29	†24	38	52	63	74	73	76	*72	51	47	39	53
1896	30	34	36	*55	*57	70	77	76	67	53	49	31	54
1897	30	34	42	52	62	68	76	73	67	57	45	36	54
1898	34	34	47	50	61	73	78	76	70	57	43	34	*55
1899	31	25	40	52	63	*75	76	74	66	58	45	36	53
1900	33	32	37	53	63	73	78	*78	71	*61	48	34	*55
1901	32	27	42	50	60	70	*79	75	68	56	†40	33	53
1902	30	29	46	52	62	70	75	72	66	57	*30	33	53
1903	31	36	*19	52	65	†66	75	71	67	58	42	31	53
1904	25	26	39	49	65	70	74	73	67	53	42	†28	†51
1905	28	†24	41	51	62	70	76	72	66	56	43	37	52
1906	*37	32	36	53	62	72	75	76	70	54	44	33	54
1907	32	†24	42	†47	†57	†66	74	.....	.....	.....	.....	.....	.....
M'ns	30.8	30.9	39.9	51.1	62.1	70.7	75.3	73.4	67.0	54.7	44.0	34.1	52.8

\* Highest on record.

† Lowest on record.

## MONTHLY EXTREMES OF TEMPERATURE, 1885-1907.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Max .....	76	76	88	96	97	103	106	101	103	92	79	71
Min. ....	-9	-10	5	20	31	41	49	45	34	24	13	1

Highest temperature, 106°, July 2, 1901; lowest, -10°, February 10 and 11, 1899; range of temperature, 116°.

Average maximum, 63.8°; average minimum, 41.8°.

Highest mean maximum, 91.6°, July, 1894; lowest, 33.3°, January, 1893.

Highest mean minimum, 69.0°, July, 1901; lowest, 11.0°, January, 1893.

Highest annual mean, 55.0°, 1900; lowest, 50.8°, 1904; range of annual mean temperature, 4.2°.

Highest monthly mean, 78.8°, July, 1901; lowest, 22.2°, January, 1893; range of monthly mean temperature, 56.6°.

Average annual range of temperature, 98°; greatest annual range, 112°, 1899; least, 87°, 1891.

Greatest monthly range, 77°, March, 1907; least, 28°, July, 1887.

Mean daily range, 22.0°.

Number of years, 1885-1906, with maximum temperature 100°, or higher, 11; number of years, 1886-1907, with minimum temperature zero, or below, 11.

Lowest annual maximum temperature, 91°, 1889; highest annual minimum, 10°, 1891.

Average temperature for spring, 51°; summer, 73°; autumn, 55°; winter, 32°.

Mean temperature for the mildest spring, 1903, 55°; for the warmest summer, 1900, 76°; for the warmest autumn, 1900, 60°; for the mildest winter, 1889-90, 39°.

Mean temperature for the coldest spring, 1888, 48°; for the coolest summer, 1903, 70°; for the coolest autumn, 1887, 52°; for the coldest winter, 1904-5, 27°.

Average date of last killing frost in spring, April 22; of first killing frost in autumn, October 16; length of the season, 176 days.

Earliest date on which first killing frost occurred in autumn, September 23 (1904); latest date in spring, May 17 (1895).

## COMPARATIVE STATE DATA FOR AUGUST.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1887	70.4	91	42	3.76
1888	72.5	98	41	6.13
1889	69.6	95	45	5.13
1890	71.5	99	40	4.90
1891	72.8	100	46	5.32
1892	73.4	99	46	3.63
1893	72.8	99	38	6.52
1894	70.9	97	38	2.58
1895	74.2	102	34	2.53
1896	73.6	105	39	1.83
1897	71.0	92	41	4.39
1898	74.8	98	42	5.36
1899	72.3	99	39	4.36
1900	76.3	104	41	2.68
1901	73.8	98	44	9.43
1902	70.1	93	40	3.01
1903	68.4	98	39	6.05
1904	70.8	92	37	6.62
1905	71.1	95	38	5.72
1906	74.6	97	42	5.05
1907	70.5	96	39	3.45



Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing direction of wind.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 4 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.			Number cloudy days.
<b>THE HIGHLANDS &amp; KITTAPUNNY VAL.</b>																				
Layton	Sussex	550	8	65.8	-2.2	95	12	39	*15	46	2.11	-2.24	0.83	0	7	21	6	4	sw.	Warren C. Hnrsh.
Sussex	do.	442	13	68.2	-1.6	92	12	45	30	33	1.86	-2.73	1.14	0	7	19	8	4	sw.	Prof. W. H. Seeley.
Oliver's Lake	do.	848	6									-2.29	0.98	0	11	19	8	4	sw.	B. E. Riker.
Newton	do.	678	27											0						Brice Bowman.
Charlotteburg	Passaic	719	15	67.4	-0.4	94	12	40	*27	41	2.05	-3.02	0.85	0	6	22	7	2	w.	G. S. Briggs.
Rompton Plains	Morris	195	5								3.15	-1.87	1.64	0	3				nw.	River & Flood Service.
Routon	do.	413	10								3.49	-0.80	1.95	0	9				nw.	River & Flood Service.
Dover	do.	575	23	67.5	-2.1	94	12	45	*27	37	2.99	-2.31	2.29	0	7	7	15	9		William C. Harris.
Belvidere	Warren	289	17	69.6	-1.9	92	*8	47	29	34	2.79	-2.35	0.81	0	8	24	3	4		Samuel J. Hixson.
Phillipsburg	do.	196	5	70.4	-1.2	94	12	49	22	36	3.04	-1.80	1.04	0	13	21	7	3	w.	D. W. Smith.
District averages.				68.1	-1.4						2.72	-2.17								
<b>THE RED SAND STONE PLAIN.</b>																				
Milwah	Bergen		5								1.86	-2.51	1.16		8				nw.	River & Flood Service.
River Vale	do.	70	16	67.2	-3.3	93	12	39	30	38	1.98	-2.51	1.45	0	5	22	7	2	nw.	G. S. M. Holdrum.
Paterson	Passaic	110	31	71.4	-0.8	95	*8	51	*27	34	3.29	-1.71	1.80	0	9	7	21	3	nw.	H. A. Probert.
Englewood	Bergen	135	17											0						William C. Tucker.
Little Falls	Passaic	175	5								3.44	-0.82	2.48	0	9				nw.	River & Flood Service.
South Orange	Essex	200	38	69.6	-1.5	92	*13	50	26	28	2.46	-2.59	1.02	0	7	8	18	5	w.	W. J. Chandler, M. D.
Chatham	Morris	234	5								2.65	-2.42	0.90	0	8				n.	River & Flood Service.
Newark	Essex	140	65	71.5	-1.0	94	12	51	27	29	3.32	-1.92	2.52	0	11	7	18	6	se.	Wm Wiener.
New York, N. Y.	New York	314	37	72.0	-0.2	91	8	59	29	21	2.48	-2.05	1.66	0	10	10	16	5	sw.	U. S. Weather Bureau.
Jersey City	Hudson	15	2	72.4		94	8	56	*27	25	2.79		1.50	0	9	10	12	9	nw.	Samuel K. Pearson, Jr.
Bayonne	do.	50	17	71.0	-2.7	94	8	53	*27	27	2.47	-2.61	0.85	0	10	15	8	8	nw.	John H. Eadie.
Bergen Point	do.	37	10	70.9	-1.3	91	*8	51	30	25	2.53	-3.19	0.78	0	9	12	18	1	sw.	Dr. W. H. Mitchell.
Elizabeth	Union	33	28	72.2	-1.4	92	12	54	*27	29	2.17	-2.47	1.18	0	10	26	5	0		W. M. Oliver.
Plainfield	do.	100	17	70.0	-2.8	92	*8	48	29	30	2.92	-2.18	1.70	0	10	15	11	5	sw.	John Neagle.
Somerville	Somerset	76	28	71.2	-1.4	95	8	48	29	32	2.79	-2.14	1.54	0	11	1				

|| Incomplete.

HIGHLANDS & KIT- TUNNY VAL.	78	38	55	86	58	30	57	51	76	58	78	43	55	77	77	53	74	46	71	41	76	54	73	47	76	39	78	53	80.6	51.9
.....	77	38	55	86	58	30	57	51	76	58	78	43	55	77	77	53	74	46	71	41	76	54	73	47	76	39	78	53	80.4	55.9
.....	86	58	30	57	51	76	58	78	43	55	86	58	30	57	51	76	58	78	43	55	86	58	30	57	51	76	58	78	43	55
.....	77	38	55	86	58	30	57	51	76	58	78	43	55	77	77	53	74	46	71	41	76	54	73	47	76	39	78	53	80.4	55.9
.....	86	58	30	57	51	76	58	78	43	55	86	58	30	57	51	76	58	78	43	55	86	58	30	57	51	76	58	78	43	55
.....	77	38	55	86	58	30	57	51	76	58	78	43	55	77	77	53	74	46	71	41	76	54	73	47	76	39	78	53	80.4	55.9
.....	86	58	30	57	51	76	58	78	43	55	86	58	30	57	51	76	58	78	43	55	86	58	30	57	51	76	58	78	43	55
.....	77	38	55	86	58	30	57	51	76	58	78	43	55	77	77	53	74	46	71	41	76	54	73	47	76	39	78	53	80.4	55.9
.....	86	58	30	57	51	76	58	78	43	55	86	58	30	57	51	76	58	78	43	55	86	58	30	57	51	76	58	78	43	55
.....	77	38	55	86	58	30	57	51	76	58	78	43	55	77	77	53	74	46	71	41	76	54	73	47	76	39	78	53	80.4	55.9
.....	86	58	30	57	51	76	58	78	43	55	86	58	30	57	51	76	58	78	43	55	86	58	30	57	51	76	58	78	43	55
.....	77	38	55	86	58	30	57	51	76	58	78	43	55	77	77	53	74	46	71	41	76	54	73	47	76	39	78	53	80.4	55.9
.....	86	58	30	57	51	76	58	78	43	55	86	58	30	57	51	76	58	78	43	55	86	58	30	57	51	76	58	78	43	55
.....	77	38	55	86	58	30	57	51	76	58	78	43	55	77	77	53	74	46	71	41	76	54	73	47	76	39	78	53	80.4	55.9
.....	86	58	30	57	51	76	58	78	43	55	86	58	30	57	51	76	58	78	43	55	86	58	30	57	51	76	58	78	43	55
.....	77	38	55	86	58	30	57	51	76	58	78	43	55	77	77	53	74	46	71	41	76	54	73	47	76	39	78	53	80.4	55.9
.....	86	58	30	57	51	76	58	78	43	55	86	58	30	57	51	76	58	78	43	55	86	58	30	57	51	76	58	78	43	55
.....	77	38	55	86	58	30	57	51	76	58	78	43	55	77	77	53	74	46	71	41	76	54	73	47	76	39	78	53	80.4	55.9
.....	86	58	30	57	51	76	58	78	43	55																				

[illegible]



# Total Monthly Precipitation, August, 1907.







J/V/VJ

U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR SEPTEMBER, 1907.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF

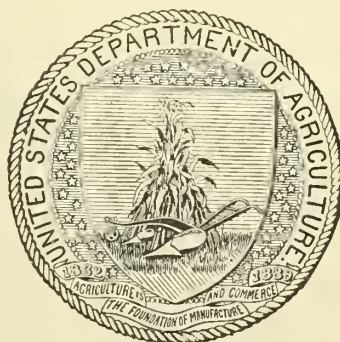
WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.  
WEATHER BUREAU OFFICE

OCTOBER 28, 1907

Monthly Mean Isotherms and Prevailing Winds, September, 1907.





U. S. DEPARTMENT OF AGRICULTURE,  
**CLIMATOLOGICAL SERVICE**

OF THE

**WEATHER BUREAU.**

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XX. ATLANTIC CITY, N. J., SEPTEMBER, 1907. No. 9.

**GENERAL SUMMARY.**

September, 1907, was marked by excessive cloudiness and generally heavy precipitation. The frequency of rain and the numerous excessive falls during periods of 24 hours, or less, were also noteworthy features. The temperature averaged about  $1^{\circ}$  per day above the normal, and altho the monthly mean was considerably lower than during September, 1906, it has been exceeded only 6 times, in this month, in a period of 21 years. The average precipitation is, with the exception of 1889, the greatest on record for September.

Summer temperature prevailed the greater part of the time from the 1st to the 24th, inclusive, the highest temperatures of the month occurring, as a rule, on the 17th and 21st. The last 6 days were cool, the lowest temperatures being reported on the 26th and 27th. The first light frost of the season formed in exposed localities in the interior on the morning of the 26th, and killing frost occurred at several stations in the extreme north on the 27th.

A great part of the month was rainy, there having been less than 10 days without measurable precipitation somewhere in the State. The rainfall was exceptionally heavy over most of the northern half of the district, where the monthly amounts, ranging from 6 to nearly 13 inches, averaged about 5 inches above the normal. The excess in the southern counties, averaging about 2.50 inches, was less pronounced, altho marked departures above the normal, ranging from 4 to nearly 6 inches, occurred locally. A considerable proportion of the monthly rainfall was received within the period extending from the 18th to the 29th, altho heavy rains fell over scattered areas on the 4th-5th.

Local storms of severity, which occurred in portions of Morris, Sussex and Warren counties on the 4th and 21st, and in the northern portion of Hunterdon County on the 11th, caused extensive damage to property. A violent southerly gale, with maximum wind velocities of about 40 miles per hour, swept over the State on the afternoon of the 23d, and the coast sections sustained a heavy southeast gale during the night of the 28th-29th.

The duration of sunshine was less than 50 per cent of the possible over a large part of the district.

**TEMPERATURE.**

The monthly mean,  $67.1^{\circ}$ , is  $0.9^{\circ}$  above the normal, and  $1.8^{\circ}$  below the mean for the corresponding month of 1906.

The local departures from the normal ranged from  $-1.0^{\circ}$ , at Trenton, to  $+2.0^{\circ}$ , at Englewood.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $64.5^{\circ}$ ; Red Sand Stone Plain,  $67.1^{\circ}$ ; Southern Interior,  $68.2^{\circ}$ ; Sea Coast,  $67.7^{\circ}$ .

The highest monthly mean was  $69.9^{\circ}$ , at Bridgeton, and the lowest,  $62.8^{\circ}$ , at Layton.

The range of monthly mean temperature was  $7.1^{\circ}$ .

The maximum,  $92^{\circ}$ , occurred at Indian Mills and Vineland, on the 21st, and the minimum,  $31^{\circ}$ , at Charlotteburg and River Vale, on the 27th.

The range within the State was  $61^{\circ}$ .

The mean daily range was  $17.7^{\circ}$ .

The greatest local monthly range,  $57^{\circ}$ , occurred at River Vale, and the least,  $32^{\circ}$ , at Cape May.

The greatest daily range,  $37^{\circ}$ , occurred at River Vale, on the 15th.

**PRECIPITATION.**

The average, 8.08 inches, is 3.85 inches above the normal and 5.89 inches above the average for the corresponding month of 1906.

The local departures from the normal ranged from  $+0.30$  of an inch, at Pleasantville, to  $+9.63$  inches, at Boonton.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 10.39 inches; Red Sand Stone Plain, 8.32 inches; Southern Interior, 6.83 inches; Sea Coast, 6.09 inches.

The greatest amount, 12.95 inches, occurred at Boonton, and the least, 3.55 inches, at Cape May Court House.

The greatest amount in 24 consecutive hours, 4.47 inches, occurred at Charlotteburg, on the 22d-23d.

Excessive precipitation occurred as follows: Asbury Park, 28th-29th, 3.20 inches; Atlantic City, 8th, 0.43 of an inch in 20 minutes, 22d, 0.69 of an inch in 25 minutes; Bayonne, 28th-29th, 2.55 inches; Bergen Point, 28th-29th, 2.67 inches; Beverly, 28th-29th, 2.57 inches; Boonton, 4th-5th, 3.44 inches; Bridgeton, 28th-29th, 2.85 inches; Brown's Mills, 22d-23d, 2.90 inches; Burlington, 28th-29th, 2.53 inches; Canton, 28th, 3.27 inches; Charlotteburg, 22d-23d, 4.47 inches; Chatham, 28th-29th, 2.50 inches; Clayton, 28th-29th, 3.28 inches; Dover, 22d-23d, 4.25 inches; Flemington, 5th, 2.59 inches; Friesburg, 22d-23d, 2.57, 28th-29th, 2.58 inches; Imlaystown, 28th-29th, 2.67 inches; Indian Mills, 23d, 2.97 inches, 28th-29th, 3.20 inches; Lambertville, 23d, 2.76 inches; Mahwah, 23d, 2.72 inches; Moorestown, 28th-29th, 2.70 inches; Newark, 28th-29th, 3.68 inches; Oceanic, 23d, 2.65 inches, 28th-29th, 3.08 inches; Paterson, 4th, 2.64 inches (2.18 inches in 70 minutes); Phillipsburg, 23d, 2.57 inches; Plainfield, 28th-29th, 2.74 inches; Pompton Plains, 4th-5th, 3.46 inches; Rancocas, 22d-23d, 2.78 inches, 28th-29th, 2.73 inches; South Orange, 28th-29th, 2.93 inches.

Measurable amounts of rain occurred on an average of 14 days.

**SUNSHINE AND CLOUDINESS.**

The average number of clear days was 10; partly cloudy, 8; cloudy, 12. The duration of sunshine, expressed as the percentage of the possible amount, was reported as follows, the percentages for cooperative stations being the estimates of the ob-

servers: Asbury Park, 47; Atlantic City, 51; Boonton, 48; Clayton, 59; Flemington, 54; Hightstown, 55; Jersey City, 41; Layton, 59; Little Falls, 46; Newark, 46; Oceanic, 57; Phillipsburg, 50; South Orange, 42; average for the State, 50 per cent. Sunshine, generally, was below the normal.

## WIND.

Southwest winds prevailed. High winds were reported on the 18th, 21st, 23d, and 25th. The following maximum velocities (for 5-minute periods) were reported: Atlantic City, 37 miles per hour, from the southwest, on the 23d; Cape May, 36 miles per hour, from the south, on the 23d; Jersey City, 43 miles per hour, from the south, on the 23d.

## MISCELLANEOUS PHENOMENA.

*Hail*.—Bayonne, 21; Clayton, 25.

*Lunar halos*.—Newark, Vineland, 16; Trenton, 17.

*Solar halos*.—Indian Mills, 2; Atlantic City, Moorestown, 2.

*Thunderstorms* (dates and number of reports).—2d, 1; 3d, 13; 4th, 25; 5th, 14; 6th, 1; 8th, 4; 11th, 27; 17th, 5; 18th, 4; 21st, 20; 22d, 10; 23d, 14; 24th, 22; 25th, 5; 29th, 1. Thunderstorms occurred at Weather Bureau stations as follows: Atlantic City, 8, 11, 17, 22, 25; Cape May, 4, 10, 11, 22. Total number of reports, 175.

*Fog*.—Atlantic City, 10, 16, 21; Bergen Point, 10; Beverly, 14, 15, 16, 21; Boonton, 3, 27; Burlington, Trenton, 15, 16, 20, 21; Hightstown, 14, 15, 16, 20, 21; Imlaystown, 15, 21; Indian Mills, 9, 21; Jersey City, Little Falls, Oceanic, 20; Lambertville, 15, 16, 27; Mahwah, 3; Newark, 19, 23, 28; Pompton Plains, Woodbine, 15; Rancocas, 16, 20; Toms River, Tuckerton, 15, 16; Vineland, 10, 21, 24.

## PRECIPITATION DATA FOR BEVERLY, BURLINGTON COUNTY, N. J.

## MONTHLY AND ANNUAL PRECIPITATION.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Anl.
1885	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1886	4.20	4.58	3.64	5.48	8.08	3.83	5.55	2.15	1.29	2.86	4.01	3.35	49.02
1887	2.30	4.99	3.25	1.60	1.50	5.64	9.48	2.86	5.27	2.42	1.66	5.01	46.98
1888	4.69	2.55	5.15	1.89	3.16	3.03	4.16	6.14	4.10	4.00	4.15	3.02	46.54
1889	4.58	2.17	3.63	4.82	5.14	2.88	7.28	5.76	8.22*	4.32	8.16*	1.11†	58.07
1890	1.99†	3.83	6.07	2.25	4.46	3.42	4.92	5.60	3.97	6.50	1.07	3.40	48.08
1891	6.23*	5.10	5.57	2.12	2.30	5.81	4.86	5.71	2.62	2.69	2.40	4.50	49.94
1892	5.45	1.87	5.33	2.40	5.55	4.07	4.27	3.64	1.95	0.35†	7.28	1.96	44.12
1893	2.97	6.23	2.60	5.85*	3.36	2.35	2.93	5.49	4.34	4.20	3.71	3.19	47.22
1894	2.27	4.54	1.92†	3.84	10.47*	2.29	1.04†	2.85	5.86	5.95	3.55	5.95	50.53
1895	4.67	1.73	3.79	4.84	2.35	3.90	3.93	1.89	0.48†	3.71	2.55	2.00	35.84
1896	2.22	5.89	5.86	1.34†	2.14	5.22	3.65	0.50†	2.84	2.45	3.12	1.25	36.48
1897	2.33	3.36	2.38	3.35	5.68	4.95	11.11*	4.00	1.42	2.31	4.32	5.17	50.37
1898	4.75	3.08	3.54	3.84	5.70	1.66†	2.95	5.82	1.86	5.33	7.73	3.41	49.67
1899	4.89	6.97*	6.91*	1.48	2.02	1.89	6.56	4.40	4.83	2.51	2.27	1.73	46.46
1900	3.97	4.99	3.43	2.14	5.64	2.23	3.49	3.44	4.88	3.93	3.08	2.57	43.79
1901	2.96	0.97†	4.14	5.31	5.45	1.91	7.39	11.70*	3.72	1.66	3.69	8.06*	56.96
1902	2.82	4.85	3.75	3.60	2.10	6.02	5.71	7.23	4.95	7.55*	2.41	6.70	57.69
1903	3.77	5.25	4.54	4.73	0.76†	6.05	7.49	4.39	3.09	6.90	1.32	3.84	52.13
1904	3.71	2.08	3.45	4.07	3.16	3.33	5.37	7.06	5.64	3.72	2.23	3.11	44.92
1905	3.26	2.54	4.24	3.86	2.09	2.24	2.27	7.63	4.70	3.84	1.93	3.62	42.22
1906	3.34	2.48	5.59	2.85	3.56	7.08*	6.92	8.92	2.52	3.95	1.56	2.89	51.66
1907	3.54	2.98	2.98	4.13	6.01	5.20	4.60	4.46	.....	.....	.....	.....	.....
M'ns	3.68	3.77	4.20	3.40	4.12	3.87	5.18	5.18	3.65	3.85	3.45	3.57	47.92

\* Greatest on record.

† Least on record.

Greatest annual amount, 58.07 inches, 1889.

Least annual amount, 35.84 inches, 1895.

Greatest monthly amount, 11.70 inches, August, 1901.

Least monthly amount, 0.35 of an inch, October, 1892.

Number of years, 1886–1906, with precipitation less than 40 inches, 2; 40 to 50 inches, 12; more than 50 inches, 7.

Number of months, July, 1885–August, 1907, inclusive, with precipitation more than 10 inches, 3; less than 1 inch, 5.

Number of times that the monthly precipitation has exceeded the normal: January, 11; February, 11; March, 9; April, 11; May, 10; June, 10; July, 10; August, 12; September, 12; October, 10; November, 10; December, 8; total, 124.

Excessive precipitation (2.50 inches, or more, in 24 hours, or less): August 3, 1885, 2.84 inches; May 7–8, 1886, 3.74; September 12, 1887, 3.39; August 21–22, 1888, 3.13; April 26–27, 1889, 2.70; June 17, 1891, 3.13; November 15–16, 1892, 3.61; August 23–24, 1893, 3.03; May 21, 1894, 4.06; February 6, 1896, 2.80; December 14–15, 1897, 2.85; January 11–12, 1900, 2.56; May 19, 1900, 3.31; September 15–16, 1900, 3.13; July 6, 1901, 3.10; August 12, 1901, 3.70; November 23–24, 1901, 3.39; December 29, 1901, 2.68; July 24–25, 1902, 2.66; August, 10, 1902, 3.98; July 18, 1903, 3.30; October 9, 1903, 5.25; August 11, 1904, 3.11; September 14–15, 1904, 4.72; July 3–4, 1906, 4.01.

Greatest amount in 24 hours, 5.25 inches, October 9, 1903.

Longest rainy period, May 17–25, 1894, 9 days; total precipitation, 8.23 inches.

Longest period without measurable precipitation, October 18–November 10, 1901, 24 days.

Average annual number of days with measurable precipitation, 125; greatest annual number, 143, 1898; least annual number, 104, 1895.

Average precipitation for spring, 11.72 inches; summer, 14.23 inches; autumn, 10.95 inches; winter, 11.02 inches.

Total precipitation for the wettest spring, 1886, 17.20 inches; for the wettest summer, 1906, 22.92 inches; for the wettest autumn, 1889, 20.70 inches; for the wettest winter, 1901–2, 15.73 inches (1902–3, 15.72 inches).

Total precipitation for the driest spring, 1887, 7.35 inches; for the driest summer, 1894, 6.18 inches; for the driest autumn, 1895, 6.74 inches; for the driest winter, 1900–1, 6.50 inches.

*Snowfall*.—Average monthly amounts: January, 8.5 inches; February, 11.8 inches; March, 5.7 inches; April, 0.5 of an inch; November, 1.8 inches; December, 5.4 inches; average annual amount, 33.7 inches.

Greatest annual amount, 51.9 inches, 1904 (the amount for the first 4 months of 1907 is 50.8 inches).

Greatest winter amount (December, January and February) 44.7 inches, 1898–99; least winter amount, 6.0, 1905–6.

Greatest monthly amount, 36.4 inches, February, 1899.

Greatest 24-hour amount, 17.0 inches, February 13, 1899.

## COMPARATIVE STATE DATA FOR SEPTEMBER.

Year.	Temperature.			Average precipitation
	Mean.	Highest.	Lowest.	
1887	61.6	92	30	3.66
1888	63.1	96	30	7.09
1889	64.8	96	34	8.36
1890	64.4	91	33	4.75
1891	68.7	94	39	2.46
1892	64.2	90	33	1.81
1893	62.7	90	31	3.20
1894	68.8	97	31	7.46
1895	69.7	109	29	1.07
1896	65.1	99	30	4.37
1897	65.5	99	30	1.65
1898	68.6	100	31	2.00
1899	64.4	93	30	5.88
1900	69.9	98	32	2.86
1901	66.8	94	29	3.38
1902	64.6	93	30	5.65
1903	65.0	92	29	3.34
1904	64.8	93	23	4.79
1905	65.4	90	28	5.23
1906	68.9	94	33	2.19
1907	67.1	92	31	8.08



CLIMATOLOGICAL DATA FOR SEPTEMBER, 1907.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing direction of wind.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.			Number cloudy days.
THE HIGHLANDS & KITTATINNY VAL.																				
Layton	Sussex	550	8	62.8	-0.5	85	16	32	*26	34	8.14	+3.81	1.92	0	15	12	10	8	sw.	Warren C. Hursh.
Sussex	do	442	13	64.8	+0.9	83	21	39	26	29	9.51	-5.44	2.45	0	13	13	8	9	sw.	Prof. W. H. Seeley.
Culver's Lake	do	848	6	.....	.....	.....	.....	.....	.....	.....	10.67	+5.44	2.31	0	15	10	6	14	s.	B. E. Riker.
Newton	do	678	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Brice Bowman.
Charlotteburg	Passaic	719	15	63.4	+1.4	82	*16	31	27	32	12.54	+7.60	4.47	0	13	8	16	6	w.	G. S. Briggs.
Pompton Plains	Morris	195	5	.....	.....	.....	.....	.....	.....	.....	12.54	.....	3.46	0	17	.....	.....	.....	w.	River & Flood Service.
Boonton	do	413	10	.....	.....	.....	.....	.....	.....	.....	12.95	+9.63	3.44	0	16	.....	.....	.....	nw.	River & Flood Service.
Dover	do	575	23	63.7	+0.9	85	21	34	27	30	10.38	-6.24	4.25	0	15	4	10	16	.....	William C. Harris.
Belvidere	Warren	289	17	65.5	0.0	87	17	38	27	31	8.42	-1.63	2.01	0	14	12	2	16	.....	Samuel J. Hixson.
Phillipsburg	do	196	5	66.6	+1.6	89	4	38	27	29	8.51	-4.74	2.57	0	17	14	6	10	sw.	D. W. Smith.
District averages.				64.5	+1.0	.....	.....	.....	.....	.....	10.39	-6.38	.....	.....	15	10	8	12	sw.	
THE RED SAND STONE PLAIN.																				
Mahwah	Bergen	70	5	.....	.....	.....	.....	.....	.....	.....	10.55	.....	2.72	0	17	.....	.....	.....	ne.	River & Flood Service.
River Vale	do	70	16	64.0	+0.3	88	21	31	27	37	8.06	+4.16	2.12	0	13	11	11	8	nw.	G. S. M. Holdrum.
Paterson	Passaic	110	31	67.3	+0.9	88	*16	40	27	29	10.33	-5.80	2.64	0	17	4	20	6	sw.	H. A. Probert.
Englewood	Bergen	135	17	67.0	+2.0	86	*17	43	26	24	8.40	+1.72	1.98	0	13	10	3	17	nw.	William C. Tucker.
Little Falls	Passaic	175	5	.....	.....	.....	.....	.....	.....	.....	9.48	.....	2.26	0	18	.....	.....	.....	nw.	River & Flood Service.
South Orange	Essex	200	38	65.6	+1.7	84	*17	41	27	24	8.92	+4.88	2.93	0	12	11	3	16	sw.	W. J. Chandler, M. D.
Chatham	Morris	234	5	.....	.....	.....	.....	.....	.....	.....	8.52	.....	2.50	0	15	.....	.....	.....	s.	River & Flood Service.
Newark	Essex	140	65	67.4	+1.5	89	21	42	26	29	10.17	-6.35	3.68	0	13	3	11	16	sw.	Wm. Wiener.
New York, N. Y.	New York	314	37	67.8	+1.3	85	21	46	26	19	8.00	+4.41	2.68	0	13	7	6	17	s.	U. S. Weather Bureau.
Jersey City	Hudson	15	2	68.6	.....	88	*17	45	26	26	7.37	.....	2.39	0	15	5	7	18	s.	Samuel K. Pearson, Jr.
Bayonne	do	50	17	67.6	-0.2	89	21	43	26	24	7.44	+3.97	2.55	0	15	8	6	16	w.	John H. Eadie.
Bergen Point	do	37	10	67.8	+1.3	89	21	44	*26	26	8.02	+3.56	2.67	0	15	5	13	12	nw.	Dr. W. H. Mitchell.
Elizabeth	Union	33	28	67.8	+0.9	87	21	42	27	25	6.18	-1.95	2.10	0	13	14	11	5	.....	W. M. Oliver.
Plainfield	do	100	17	66.6	-0.8	88	17	38	27	30	7.44	-2.55	2.74	0	15	12	10	8	sw.	John Neagle.
Somerville	Somerset	76	28	67.4	+1.2	90	*17	38	*26	32	7.88	+3.99	2.37	0	15	11	6	13	sw.	Peter Hardcastle.
Flemington	Hunterdon	187	10	67.4	-1.0	89	21	39	27	30	11.24	-6.82	2.59	0	18	12	5	13	sw.	H. E. Deats.
New Brunswick	Middlesex	61	54	67.0	+1.1	87	21	40	26	30	6.64	-2.82	2.10	0	10	16	1	13	w.	Wm. T. Woerner.
College Farm	do	100	12	66.8	+0.5	88	*3	37	27	28	6.85	+2.88	2.25	0	14	9	14	7	e.	George G. Manning.
Runyon	do	18	.....	.....	.....	.....	.....	.....	.....	.....	7.02	.....	2.33	0	13	6	12	12	.....	J. H. Cottrell.
Lambertville	Hunterdon	95	21	67.2	+1.3	88	21	40	27	32	7.84	+3.31	2.76	0	15	11	7	12	sw.	William R. Bowne.
District averages.				67.1	+1.0	.....	.....	.....	.....	.....	8.32	+4.14	.....	.....	14	9	9	12	sw.	
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	16	67.2	+0.5	87	17	39	27	29	6.48	+2.77	2.00	0	12	11	6	13	w.	Ernst Wenger.
Trenton	do	60	38	67.4	-1.0	86	21	42	27	25	6.81	-2.81	2.49	0	10	4	14	12	sw.	E. R. Cook.
Imlaystown	Monmouth	106	21	67.4	+0.8	90	21	39	*26	33	7.29	-2.63	2.67	0	14	10	12	8	sw.	F. C. Price, M. D.
Burlington	Burlington	12	15	.....	.....	.....	.....	.....	.....	.....	6.89	-2.98	2.53	0	12	.....	.....	.....	.....	D. S. B. McCoy.
Beverly	do	30	23	67.8	+0.8	88	*16	40	27	31	5.94	-2.29	2.57	0	13	7	14	9	nw.	C. F. Richardson.
Rancocas (t.)	do	68	22	.....	.....	89	4	44	27	.....	7.19	+3.13	2.78	0	11	11	4	15	nw.	Spencer Haines.
Brown's Mills	do	71	1	68.4	.....	91	21	36	27	34	8.76	.....	2.90	0	10	.....	.....	.....	.....	M. W. Hargrove.
Moorestown	do	71	43	67.4	+1.6	88	21	39	27	29	6.74	+3.06	2.70	0	14	11	7	12	s.	John C. Beans.
Philadelphia, Pa.	Philadelphia	117	37	69.6	-2.2	89	17	48	26	21	5.99	-2.61	2.56	0	16	7	7	16	sw.	U. S. Weather Bureau.
Toms River (t.)	Ocean	33	16	66.8	-0.3	90	21	35	27	30	9.17	-5.77	2.25	0	12	13	3	14	sw.	F. G. Bunnell.
Indian Mills	Burlington	76	7	68.2	-1.3	92	21	37	27	36	10.51	-5.81	3.20	0	14	12	8	10	sw.	James Armstrong.
Clayton (t.)	Gloucester	126	11	68.2	-1.0	89	21	40	27	30	7.62	+3.90	3.28	0	14	16	5	9	sw.	Wm. T. Farley.
Tuckerton (t.)	Ocean	23	10	67.6	-1.4	88	*17	38	27	28	6.34	-2.83	1.32	0	11	10	10	10	sw.	F. R. Austin.
Friesburg	Salem	100	15	68.4	-1.0	91	21	39	*26	30	6.40	-2.45	2.58	0	13	6	15	9	w.	H. C. Perry.
Vineland (t.)	Cumberland	118	40	68.8	+1.9	92	21	39	27	31	8.69	+4.90	2.37	0	16	11	10	9	sw.	Alfred Chalmers.
Canton	Salem	24	6	.....	.....	.....	.....	.....	.....	.....	7.65	-4.54	3.27	0	11	12	12	6	.....	J. H. Maskell.
Bridgeton	Cumberland	30	32	69.9	+1.1	90	*17	40	*26	31	8.36	-4.97	2.85	0	11	14	6	10	sw.	Henry A. Jorden.
Pleasantville	Atlantic	26	10	.....	.....	.....	.....	.....	.....	.....	4.19	-0.30	0.93	0	15	13	5	12	.....	L. Van Gilder.
Woodbine	Cape May	43	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	R. D. Maltby.
Cape May C. H.	do	19	20	69.0	+1.2	86	*17	43	27	26	3.55	+0.50	1.24	0	9	9	6	15	se.	L. T. Garretson.
District averages.				68.2	+0.9	.....	.....	.....	.....	.....	6.83	+2.49	.....	.....	12	10	9	11	sw.	
THE SEA COAST.																				
Oceanic	Monmouth	16	21	67.2	-0.3	86	21	42	27	26	8.48	+4.15	3.08	0	16	11	7	12	nw.	Prof. C. E. Dietz.
Asbury Park	do	22	19	67.4	+0.3	87	17	42	26	19	6.97	+3.62	3.20	0	16	13	3	14	s.	B. H. Obert.
Atlantic City	Atlantic	16	32	67.7	+0.1	82	21	44	26	19	5.09	-2.04	1.97	0	14	6	7	17	sw.	Section Center.
Cape May City	Cape May	17	14	68.6	-0.4	82	17	50	26	18	3.82	+0.82	1.52	0	11	10	13	7	s.	U. S. Weather Bureau.
District averages.				67.7	0.0	.....	.....	.....	.....	.....	6.09	+2.66	.....	.....	14	10	8	12	s.	

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

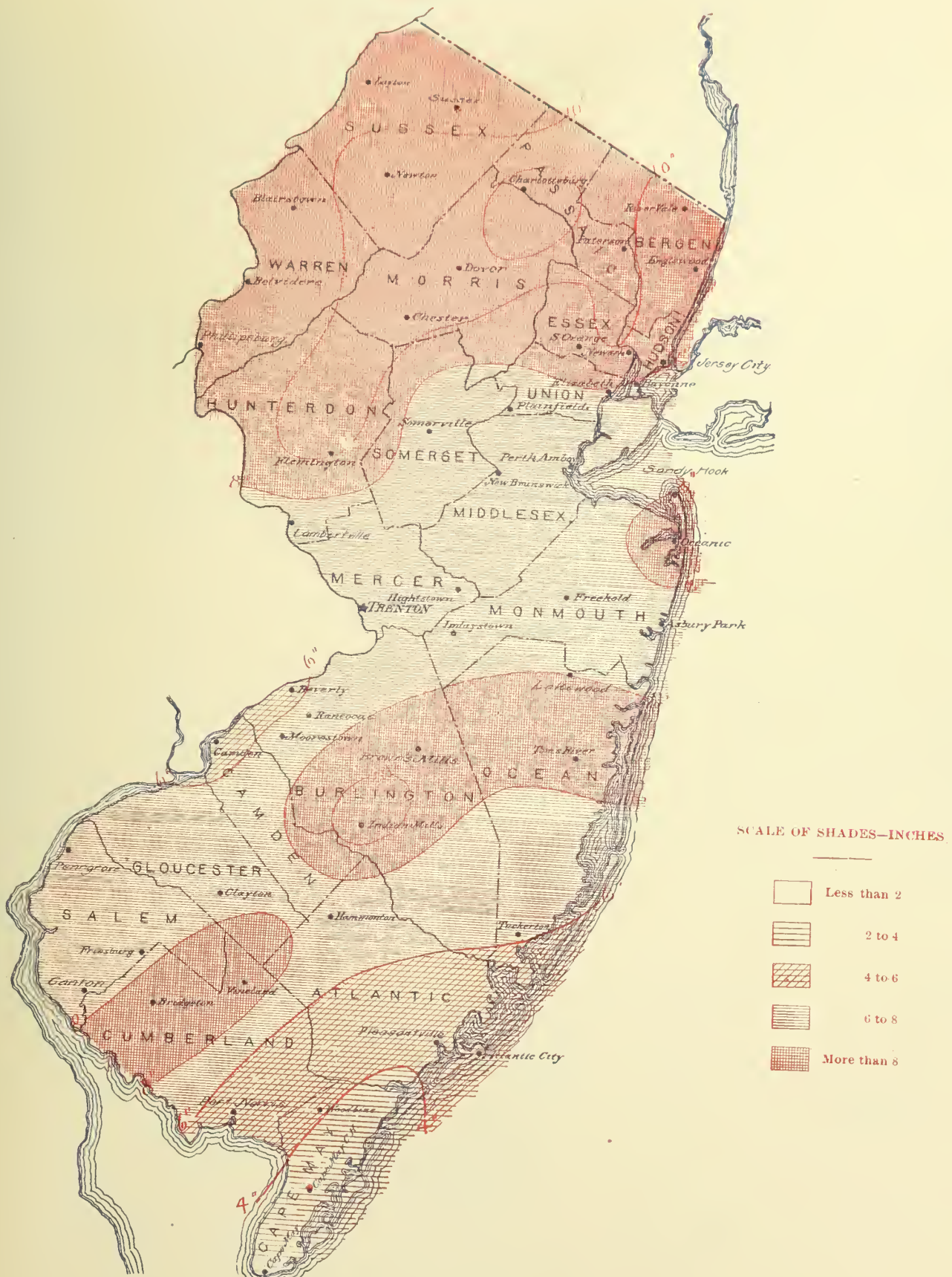
† Not considered in averages.

‡ Incomplete.





# Total Monthly Precipitation, September, 1907.



## TOTAL PRECIPITATION FOR SEPTEMBER, 1907.

Stations.	Day of month.																															Total.		
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.			
THE HIGHLANDS & KITTA-TINNY VALLEY.																																		
Layton .....	.28	.35	.50	.73					.03	.09	.55							1.33	.28	.03	.27		1.92	.12					.04	1.62			8.14	
Sussex .....		.10	1.54	.67				.03	T.	.02	.87							1.53	.20	.04	.40	T.	2.45	.45				T.	2.21			9.51		
Culver's Lake .....	.22	.15	1.30	.68				T.	.01	T.	.87							1.60	.30	.06	.50	.01	2.26	.39				T.	.01	2.31			10.67	
Newton .....																																		
Charlotteburg .....	.22	T.	.50	1.07	T.					.11	1.85							*	1.03	.42	*	4.47							*	1.82			12.54	
Pompton Plains .....	.06	.14	.02	3.46	1.90				.36	.06	.05	.50						*	.74	.03	.12	*	.52	2.44		.15			*	1.97			12.37	
Boonton .....	.15		*	3.44	1.97			.11		.07	.10	.75						*	1.02	.17	*	.50	2.32						*	2.35			12.95	
Dover .....	.20	.11	*	1.32				.19	.04	.02	1.15							.62		.19	*	4.25	.04						*	2.25			10.38	
Belvidere .....	.19	.85	.70	.35				.04	.16	.02	1.17							.30	.29		.28	.05	2.01						2.01			8.42		
Phillipsburg .....	.15	.20	.45	.31				.09	.22	.02	1.22							.30	.18	.01	.35	.06	2.57	.10					.32	1.96			8.51	
THE RED SAND STONE PLAIN.																																		
Mahwah .....	.10	.12	.06	1.86	1.20			.08		.12		.97						*	.12		.91	*	.31	2.72	.41				*	1.57			10.55	
River Vale .....	.60	.48	.98	.85				.30				.70						.10			.04	*	2.12	.04					*	1.85			8.06	
Paterson .....	.25	.11	2.64	.94				.07	*	.10	.62							.48	.17	.02	.15	.18	2.26	.11				T.	.21	2.02			10.33	
Englewood .....	.26	.03	.51	.17				T.	T.	T.	.86							T.	.69	.10	T.	.53	.62	1.98	.17			T.	.86	1.98			8.40	
Little Falls .....	.01	.21	.09	.95	1.06			.13		.09	.03	.91						*	1.01	.01	.17	*	.50	2.05					*	2.26			9.48	
South Orange .....	.25	T.	.63	.82				.02	T.	T.	.75							.58	T.	T.	.24	.42	2.00	.28				T.	.93	2.00			8.92	
Chatham .....	.05	.08	.04	.70	.53			.03			.68							.67		.20	*	.60	1.80	.59					*	2.50			8.52	
Newark .....	.26	T.	.34	.85				.04	T.		.57							.62		.03	.33	.86	2.04	.55				T.	1.23	2.45			10.17	
New York, N. Y. ....	.24	.03	.15	.16				T.	T.	T.	.73							T.	.76	.09	T.	.44	.63	1.97	.12			T.	.74	1.94			8.00	
Jersey City .....	.24	.05	.23	.23				.02	T.	T.	.81							T.	.62	.13	.01	.28	.29	1.97	.10	T.		T.	.63	1.76			7.37	
Bayonne .....	.17	.02	.14	.20	T.			.02	T.	T.	.87							.62	.05	T.	.20	.21	2.05	.30	.04					2.28	T.		7.44	
Bergen Point .....	.23	T.	.44	.03				.03			.82							.82	.03		.25	.23	2.07	.33	.05					.28	2.39	.02		8.02
Elizabeth .....	.20		.15	.25				.05		.13	.44							.55		T.	.08	*	2.08	.15					*	2.10			6.18	
Plainfield .....	.11	.04	.15	.36				.08		T.	.64							.40	.05	.01	.20	.25	2.15	.26			T.		.72	2.02			7.44	
Somerville .....	.06	T.	.20	.80				.10			.45							.30	.12	.02	.40	.28	2.48	.35	.04		T.		.53	2.39			11.24	
Flemington .....	.10	.03	.66	2.59				.08	.05	.04	.78							.33	.10		.25	15.00	.66							.25	2.10			6.64
New Brunswick .....			.20					.57			.20							.34	.15		.37	.13	1.83	.12	.49					.34	2.25			6.85
College Farm .....	.05		.10					.03	.02		.63							.18		T.	.14	.35	1.45	.87					*	2.33			7.02	
Runyon .....	T.	.03	.06	.03	.04			T.			.82							.36	.45	.04	.25	.15	2.76	.41		T.			.34	1.94			7.84	
Lambertville .....	.14	.22	.10	.04				.14			.50																							
THE SOUTHERN INTERIOR.																																		
Hightstown .....	.12		.08	.05				T.	T.	T.	1.17							.35	.22			.36	2.00		.21				*	1.89			6.48	
Trenton .....	.18	.12	.19					T.	T.	T.	.59							.81	.28			.18	1.97						.44	2.05			6.81	
Imlaystown .....	.11	.23	.12					.02	*	.11	.45							*	1.12			*	2.24	.22					*	2.67			7.29	
Burlington .....	.15	.02	.02					.05	T.		.51							.75	.20		T.	.54	1.76	.36					*	2.53			6.87	
Beverly .....	.16	.07	.01	T.				.05	T.	T.	.57							.22	.24	.02		.28	1.50	T.	.25					.57	2.00			5.94
Rancocas .....	.10	T.	.02	T.				.10	T.	T.	.40							.15	.28	T.		.25	2.53	.63				T.		.40	2.33			7.19
Brown's Mills .....	.35		.95					.20		.11	.80								.40			*	2.90							1.00	2.05			8.76
Moorestown .....	.11	.02	.01	T.				.10		.01	.37							T.	.17	.31	1.02		.21	2.07	.64			T.	.80	1.90			6.74	
Philadelphia, Pa. ....	.07	.30	.01	.03				.07	.01	.02	.18							.02	.11	.43		.56	1.14	.48				T.	1.82	.74			5.99	
Toms River .....	.15		1.81	1.06				.08		.19	.78							*	1.65		*	1.20							*	2.25			9.17	
Indian Mills .....	.10	.68	1.64	.04				.11	T.	.11	.30							T.	.25	.38		.16	2.97		.57		T.		.63	2.57			10.51	
Clayton .....	T.	.19	.36					.13	T.	.15	.19							.63	.12	.05		*	1.80	.03	.69		T.		.51	2.77			7.62	
Tuckerton .....	T.	.07	.94					.79		1.32	.60							.51				.55	.43		.11					.22	.80			6.34
Friesburg .....		.12	.12	T.				.15	*	.19	.16							.19	.02		*	2.57	T.	.30					*	2.58			6.40	
Vineland .....	T.	.05	1.72	.02				.70	*	.91	.65							.12	.02		.20	1.4	1.81	*	.18				.46	1.91			8.60	
Canton .....	.06		.15		.02			.88	.07		.18							.10	T.			.75	1.90	.27				T.	3.27			7.60		
Bridgeton .....	.08	.20	1.98	T.				.65	T.		.25							.05			.22	1.98	.10							.65	2.20			8.30
Pleasantville .....		.21	.03					.75	.01	.11	.43							.25	.23	.01		.30	.93	*	.10					.15	.68			4.10
Woodbine .....																																		
Cape May C. H. ....		.16	T.			.10		.03		T.	.56	T.						.18	T.			.31	1.24							.10	.87			3.51
THE SEA COAST.																																		
Oceanic .....	.09	.03	.16	.08						.10	.81							.36	.31	.20	.21		.03	2.65	.05	.32			.23	2.85			8.41	
Asbury Park .....	.03	.06	.64	.03				.02	*	.04	.82							.34	.40			.04	.84	.13	.38		T.		.10	3.10			6.90	
Atlantic City .....	T.	.52	T.	.01				.51	T.	.01	.40				.01			.20	.19	.25		1.79	.20		.20					.70	.30			5.00
Cape May City .....		.12	.28	.07				.01	T.	.01	.68							T.				1.52	.60	.04						.37	.12			3.80



U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR OCTOBER, 1907.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

---

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

---

UNDER DIRECTION OF  
WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.  
WEATHER BUREAU OFFICE  
NOVEMBER 22, 1907

Monthly Mean Isotherms and Prevailing Winds, October, 1907.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XX. ATLANTIC CITY, N. J., OCTOBER, 1907. No. 10.

## GENERAL SUMMARY.

Clear and cool weather prevailed during October, 1907. The mean temperature is the lowest reported for October in a period of 21 years, with two exceptions, namely, 1888 and 1895. The temperature extremes were well within the records of previous years. The precipitation averaged slightly above the normal and occurred mostly in the first and third decades.

The temperature was almost steadily below the normal throughout the month, the deficiency averaging about  $4^{\circ}$  per day. The most pronounced local deficiencies, amounting to about  $6^{\circ}$  per day, occurred in portions of Bergen, Ocean, and Salem counties. The warmest weather of the month occurred during the first decade, the highest temperatures being generally reported on the 3d, 4th, and 7th. The second and third decades averaged much cooler than usual, the deficiency in mean temperature being greatly increased by the predominance of abnormally cool nights during the latter part of the month. Minimum temperatures of  $32^{\circ}$ , or lower, were frequent during the month over much the greater portion of the district, the lowest temperatures occurring for the most part on the 22d, 25th, 27th, and 31st. Killing frosts occurred often, principally on the 2d, 9th, 15th, 21st, and 22d in the northern counties, and on the 22d in the southern interior. On the immediate southeastern coast the month past without destructive frosts.

The precipitation during the month exceeded the normal over the northern portion of the district and was generally deficient over the southern counties. The most marked excess occurred in portions of Bergen, Essex, Morris, Passaic, and Sussex counties, in the north, where the monthly rainfall ranged from 5 to lightly more than 7 inches. The deficiency in precipitation was greatest in portions of Monmouth, Ocean, and Salem counties, where the total rainfall was slightly less than 3 inches. Precipitation was infrequent and unusually light from the 1st to the 6th, inclusive, except on the 8th, when generally more than 1 inch was received in the northern counties. The heaviest precipitation of the month occurred from the 27th to the 29th, inclusive, the rainfall during this period being 65 per cent of the total for the month.

The month was remarkably free from cloudiness, the number of bright, clear days during the first and second decades being exceptionally large. The percentage of sunshine is the highest reported for October in a period of 11 years, the sky having been almost continuously clear during the second decade. The

greatest amount of cloudiness occurred during the third decade.

High south winds occurred on the 8th, causing considerable damage to property in portions of the central and northern counties. High south and northwest winds were also reported on the 28th and 29th, respectively, attending the northward passage along the coast of a marked barometric depression.

## TEMPERATURE.

The monthly mean,  $50.6^{\circ}$ , is  $4.3^{\circ}$  below the normal, and  $4.4^{\circ}$  below the mean for the corresponding month of 1906.

The local departures from the normal ranged from  $-2.5^{\circ}$ , at Englewood, to  $-6.4^{\circ}$ , at Tuckerton.

The means for the various districts were as follows: The Highlands and Kittatinny Valley,  $48.0^{\circ}$ ; Red Sand Stone Plain,  $50.5^{\circ}$ ; Southern Interior,  $51.3^{\circ}$ ; Sea Coast,  $51.8^{\circ}$ .

The highest monthly mean was  $53.1^{\circ}$ , at Cape May, and the lowest,  $46.1^{\circ}$ , at Layton.

The range of monthly mean temperature was  $7.0^{\circ}$ .

The maximum,  $80^{\circ}$ , occurred at Bridgeton, on the 3d and 7th, and the minimum,  $18^{\circ}$ , at River Vale, on the 25th.

The range within the State was  $62^{\circ}$ .

The mean daily range was  $22.2^{\circ}$ .

The greatest local monthly range,  $57^{\circ}$ , occurred at Charlotteburg, Layton, and River Vale, and the least,  $38^{\circ}$ , at Cape May.

The greatest daily range,  $41^{\circ}$ , occurred at Charlotteburg, Flemington, and River Vale, on the 16th, 22d, and 17th, respectively.

## PRECIPITATION.

The average, 4.46 inches, is 0.45 of an inch above the normal, and is the same as the average for the corresponding month of 1906.

The local departures from the normal ranged from  $-1.66$  inches, at Tuckerton, to  $+3.27$  inches, at Dover.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 5.97 inches; Red Sand Stone Plain, 4.93 inches; Southern Interior, 3.59 inches; Sea Coast, 3.14 inches.

The greatest amount, 7.18 inches, occurred at Dover, and the least, 2.70 inches, at Toms River.

The greatest amount in 24 consecutive hours, 3.40 inches, occurred at Newark, on the 28th.

Excessive precipitation occurred as follows: Newark, 28th, 3.40 inches; Paterson, 28th, 2.55 inches.

Measurable amounts of rain occurred on an average of 7 days.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 22; partly cloudy, 5; cloudy, 4. Sunshine was much above the normal, the duration being about 80 per cent of the possible. At Atlantic City the percentage of the possible amount was 82, and at Jersey City, 77.

## WIND.

Northwest winds prevailed. High winds were reported on the 5th, 8th, 23d, 27th, 28th, and 29th. The following maximum velocities (for 5-minute periods) were reported: Atlantic City, 32 miles per hour, from the south, on the 28th; Cape May, 34

miles per hour, from the northwest, on the 29th; Jersey City, 48 miles per hour, from the northwest, on the 29th.

#### MISCELLANEOUS PHENOMENA.

*Hail*.—Phillipsburg, 29th; Toms River, 28th.

*Halos, lunar*.—Asbury Park, Atlantic City, Beverly, Implants-town, Indian Mills, Lambertville, Moorestown, Newark, Vine-land, 17th; Bergen Point, 22d; Trenton, 22d, 23d; Woodbine, 17th, 23d.

*Meteors*.—1st, about 6.30 p. m., and 5th, about 10.00 p. m. These bright meteors were observed at various points in the State, altho that of the 5th was less generally seen, owing to the late hour of its appearance.

*Thunderstorms* (dates and number of reports).—4th, 2; 5th, 6; 8th, 7; 11th, 2; 20th, 1; 27th, 6; 28th, 15; 29th, 14. Thunderstorms occurred at Weather Bureau stations as follows: Atlantic City, 27th, 28th, 29th. Total number of reports, 56.

*Fog*.—Asbury Park, Bergen Point, Jersey City, 28th; Bayonne, 10th, 16th; Beverly, 3d, 16th, 18th, 25th; Hightstown, 11th, 16th; Lambertville, 2d, 3d, 16th, 17th, 22d, 23d, 24th; Layton, 15th, 16th; Moorestown, 16th, 23d, 25th; Newark, 16th, 20th, 26th, 27th, 28th; Paterson, 17th, 28th; Phillipsburg, 2d, 17th, 18th, 23d, 25th, 26th; Trenton, 17th, 18th, 23d, 25th.

#### DELAYED REPORTS.

Englewood, August, 1907.—Mean temperature, 71.3°; departure from the normal, -0.6°; highest, 92°, 8th; lowest, 54°, 29th; greatest daily range, 28°. Total precipitation, 2.74 inches; departure from the normal, -2.28 inches; greatest in 24 hours, 1.72 inches. Number of rainy days, 10; clear, 16; partly cloudy, 6; cloudy, 9. Prevailing wind direction, northwest.

Woodbine, September, 1907.—Mean temperature, 69.2°; departure from the normal, +2.5°; highest, 90°, 21st; lowest, 37°, 27th; greatest daily range, 36°. Total precipitation, 5.44 inches; departure from the normal, +1.24 inches; greatest in 24 hours, 1.02 inches. Number of rainy days, 12; clear, 9; partly cloudy, 16; cloudy, 6. Prevailing wind direction, south.

#### TEMPERATURE DATA FOR NEWTON, SUSSEX COUNTY, N. J.

##### MONTHLY AND ANNUAL MEAN TEMPERATURES.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1890.	.....	*34	.....	48	58	68	69	68	61	49	39	.....	.....
1891.	.....	34	*31	59	70	69	71	67	51	38	*38	.....	.....
1892.	26	29	31	47	58	*71	72	71	60	49	37	25	48
1893.	18	24	32	45	57	68	71	71	159	53	39	30	47
1894.	30	24	41	47	60	70	74	69	65	52	37	32	50
1895.	23	20	32	48	.....	.....	168	.....	65	47	43	34	.....
1896.	24	28	429	.....	164	66	.....	.....	48	44	28	.....	.....
1897.	26	30	37	49	59	64	71	68	61	53	41	32	49
1898.	29	29	44	45	57	69	74	72	65	53	40	28	50
1899.	25	24	34	49	60	70	72	71	62	54	40	31	49
1900.	26	28	32	49	60	69	73	*74	*68	*58	44	30	*51
1901.	28	22	35	48	59	70	*77	72	65	52	43	28	49
1902.	25	24	42	48	58	65	72	69	62	53	*46	25	49
1903.	25	30	*46	49	62	163	71	167	62	52	43	23	49
1904.	117	20	34	44	62	68	72	167	162	49	36	24	146
1905.	23	19	36	48	60	67	73	167	62	52	38	34	48
1906.	*34	26	30	49	60	70	72	73	66	52	40	28	50
1907.	27	*19	38	44	54	163	71	.....	.....	.....	.....	.....	.....
M'ns	25.4	25.3	35.7	47.6	59.3	67.7	71.9	70.0	63.5	51.7	39.5	29.4	48.9

\* Highest on record.

† Lowest on record.

‡ Estimated.

#### MONTHLY EXTREMES OF TEMPERATURE, 1890-1907.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Max .....	66	60	64	88	98	101	100	99	94	90	72	63
Min .....	-18	-13	-5	16	24	36	40	34	33	21	8	-4

Dates with maximum temperature 100°, or higher: 101°, June 20, 1893; 100°, July 2, 1901.

Dates with minimum temperature 10° below zero, or lower: 1893, January 16, -10°; 1896, February 17, -12°; 1899, February 10, -13°, February 11, -11°; 1904, January 5, -15°, January 6, -18°, January 19, -16°, January 20, -11°, January 28, -11°; 1905, January 31, -12°; 1907, January 27, -11°, February 6, -10°, February 24, -12°.

Highest temperature, 101°, June 20, 1893; lowest, -18°, January 6, 1904; range of temperature, 119°.

Highest mean maximum, 88.1°, August, 1900; lowest, 25.4°, January, 1904.

Highest mean minimum, 66.3°, July, 1901; lowest, 8.5°, January, 1904.

Highest annual mean, 50.0°, 1900; lowest, 46.4°, 1904; range of annual mean temperature, 4.5°.

Highest monthly mean, 77.0°, July, 1901; lowest, 17.0°, January, 1904; range of monthly mean temperature, 60.0°.

Average annual range of temperature, 103°; greatest annual range, 115°, 1904; least, 94°, 1902.

Greatest monthly range, 83°, March, 1907; least, 34°, February, 1901, and July, 1891.

Lowest annual maximum temperature, 91°, 1890, 1891; highest annual minimum, 2°, 1897.

Average temperature for spring, 48°; summer, 70°; autumn, 52°; winter, 27°.

Average date of last killing frost in spring, May 2; of first killing frost in autumn, October 11; average length of the growing season, 161 days.

Earliest date on which first killing frost occurred in autumn September 15 (1895); latest date in spring, May 22 (1907).

#### COMPARATIVE STATE DATA FOR OCTOBER.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1887.....	52.3	89	21	2.61
1888.....	49.2	76	25	4.73
1889.....	50.8	82	23	3.80
1890.....	53.9	81	24	6.33
1891.....	52.8	93	18	3.44
1892.....	53.6	87	21	0.52
1893.....	55.2	85	17	4.22
1894.....	55.3	87	23	5.67
1895.....	49.9	83	18	3.60
1896.....	51.5	82	21	2.24
1897.....	55.8	95	22	2.43
1898.....	56.5	88	24	5.76
1899.....	56.6	86	18	2.72
1900.....	59.9	92	19	3.70
1901.....	54.4	82	21	1.93
1902.....	56.0	80	20	6.39
1903.....	55.9	86	24	8.92
1904.....	51.9	89	15	3.78
1905.....	55.5	90	17	2.71
1906.....	55.0	80	11	4.46
1907.....	50.6	80	18	4.46



## CLIMATOLOGICAL DATA FOR OCTOBER, 1907.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing direction of wind.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.			Number cloudy days.
THE HIGHLANDS & KITTATINNY VAL.																				
Layton .....	Sussex .....	550	8	46.1	-4.3	76	3	19	*22	38	5.06	+1.04	1.92	0	8	24	3	4	n.	Warren C. Hursh.
Sussex .....	do .....	442	13	48.2	-4.5	74	*3	25	*27	34	6.37	+2.71	1.94	0	8	21	6	4	nw.	Prof. W. H. Seeley.
Culver's Lake .....	do .....	848	6	...	...	...	...	...	...	...	6.31	+1.24	2.40	0	8	21	5	5	nw.	B. E. Riker.
Newton .....	do .....	678	27	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	n.	Brice Bowman.
Charlotteburg .....	Passaic .....	719	15	47.2	-3.8	76	3	19	25	41	6.36	+1.41	2.20	0	8	23	5	3	w.	G. S. Briggs.
Pompton Plains .....	Morris .....	195	5	...	...	...	...	...	...	...	6.50	...	2.24	0	8	...	...	...	n.	River & Flood Service.
Boonton .....	do .....	413	10	...	...	...	...	...	...	...	6.16	+3.11	1.97	0	8	...	...	...	nw.	River & Flood Service.
Dover .....	do .....	575	23	46.7	-4.4	74	3	23	*22	35	7.18	+3.27	2.30	0	9	12	12	7	...	William C. Harris.
Belvidere .....	Warren .....	289	17	49.7	-3.6	75	*4	25	*22	37	4.82	+1.16	1.88	0	8	22	4	5	...	Samuel J. Hixson.
Phillipsburg .....	do .....	196	5	50.0	-2.7	75	3	26	22	34	4.63	+1.27	1.90	0	8	24	2	5	nw.	D. W. Smith.
District averages .....	...	...	...	48.0	-3.8	...	...	...	...	...	5.97	+2.16	...	0	8	21	5	5	nw.	...
THE RED SAND STONE PLAIN.																				
Mahwah .....	Bergen .....	70	5	...	...	...	...	...	...	...	6.91	+2.11	2.21	0	8	...	...	...	nw.	River & Flood Service.
River Vale .....	do .....	70	16	46.4	-6.3	75	4	18	25	41	4.80	+0.65	...	0	6	23	4	4	nw.	G. S. M. Holdrum.
Paterson .....	Passaic .....	110	31	51.4	-3.1	77	3	28	*22	34	5.80	+1.62	2.55	0	8	16	13	2	nw.	H. A. Probert.
Englewood .....	Bergen .....	135	17	51.2	-2.5	74	*4	32	25	35	1.17	+0.32	1.52	0	9	17	8	6	nw.	William C. Tucker.
Little Falls .....	Passaic .....	175	5	...	...	...	...	...	...	...	6.06	...	...	...	...	...	...	...	nw.	River & Flood Service.
South Orange .....	Essex .....	200	38	49.0	-3.8	72	4	29	22	28	5.29	+1.37	2.10	0	6	23	2	6	w.	W. J. Chandler, M. D.
Chatham .....	Morris .....	234	5	...	...	...	...	...	...	...	5.96	+1.37	1.95	0	8	...	...	...	w.	River & Flood Service.
Newark .....	Essex .....	140	65	51.2	-2.9	76	3	29	27	32	6.07	+2.27	3.40	0	9	18	9	4	nw.	Wm. Wiener.
New York, N. Y. ....	New York .....	314	37	52.5	-3.1	73	7	36	31	28	3.82	+0.11	1.96	0	9	18	9	4	nw.	U. S. Weather Bureau.
Jersey City .....	Hudson .....	15	2	52.2	...	75	*3	32	31	26	1.45	...	...	0	8	20	5	6	nw.	Samuel K. Pearson, Jr.
Bayonne .....	do .....	50	17	51.2	-4.8	73	*3	30	31	30	4.28	+0.46	2.09	0	8	20	6	5	nw.	John H. Fadie.
Bergen Point .....	do .....	37	10	51.2	-4.9	75	*3	31	*22	30	4.52	...	2.16	0	7	15	12	4	nw.	Dr. W. H. Mitchell.
Elizabeth .....	Union .....	33	28	51.2	-3.6	75	*4	29	22	30	3.95	-0.09	...	0	7	23	6	2	...	W. M. Oliver.
Plainfield .....	do .....	100	17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	nw.	John Neagle.
Somerville .....	Somerset .....	76	28	49.6	-4.3	76	3	23	22	36	4.27	+0.92	1.30	0	8	21	1	9	nw.	Peter Hardecastle.
Flemington .....	Hunterdon .....	187	10	51.1	-4.7	77	3	25	*22	41	4.78	+0.83	1.60	0	8	23	4	4	nw.	H. E. Deats.
New Brunswick .....	Middlesex .....	61	54	49.5	-5.3	76	4	24	*22	36	4.85	+1.23	2.00	0	7	27	1	3	w.	Wm. T. Woerner.
College Farm .....	do .....	100	12	49.6	-5.8	76	3	24	22	34	4.95	+0.84	1.85	0	8	20	7	4	n.	George G. Manning.
Runyon .....	do .....	18	...	...	...	...	...	...	...	...	3.72	...	1.25	0	8	...	...	...	n.	J. H. Cottrell.
Lambertville .....	Hunterdon .....	95	21	50.0	-4.0	76	3	26	*25	34	4.93	+1.17	1.89	0	7	26	1	4	nw.	William R. Bowne.
District averages .....	...	...	...	50.5	-4.2	...	...	...	...	...	4.93	+0.90	...	0	8	21	6	4	nw.	...
THE SOUTHERN INTERIOR.																				
Hightstown .....	Mercer .....	85	16	50.4	-4.5	74	*3	26	22	33	4.14	+0.06	1.78	0	7	23	4	4	nw.	Ernst Wenger.
Trenton .....	do .....	60	38	52.4	-5.1	74	*2	29	31	32	2.98	-0.87	1.57	0	6	11	19	1	nw.	E. R. Cook.
Imlaystown .....	Monmouth .....	106	21	50.8	-4.3	77	3	25	22	37	4.11	-0.09	2.33	0	6	21	6	4	uw.	F. C. Price, M. D.
Burlington .....	Burlington .....	12	15	...	...	...	...	...	...	...	4.48	+0.32	1.87	0	9	...	...	...	nw.	D. S. B. McCoy.
Beverly .....	do .....	30	23	50.6	-4.1	77	7	26	22	35	3.39	+0.14	1.56	0	7	24	4	3	nw.	C. F. Richardson.
Rancocas .....	do .....	68	22	...	...	75	4	30	31	...	4.03	-0.06	1.50	0	6	24	1	6	nw.	Spencer Haines.
Brown's Mills .....	do .....	71	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	nw.	M. W. Hargrove.
Moorestown .....	do .....	71	43	50.8	-3.4	76	3	26	22	35	3.89	+0.32	1.60	0	7	24	3	4	nw.	John C. Beas.
Philadelphia, Pa. ....	Philadelphia .....	117	37	54.1	-2.2	76	3	36	31	25	3.38	+0.28	1.29	0	7	18	9	4	nw.	U. S. Weather Bureau.
Toms River .....	Ocean .....	33	16	...	...	78	3	...	...	...	2.70	+1.47	1.25	0	4	...	...	...	w.	F. G. Bunnell.
Indian Mills .....	Burlington .....	76	7	50.8	-5.2	79	3	23	22	40	4.37	+0.19	1.85	0	6	24	4	3	w.	James Armstrong.
Clayton .....	Gloucester .....	126	11	51.1	-5.9	76	7	27	22	34	4.08	+0.68	1.61	0	7	25	2	4	nw.	Wm. T. Farley.
Tuckerton .....	Ocean .....	23	10	49.8	-6.4	73	*3	24	22	34	2.89	-1.66	1.02	0	6	21	7	5	nw.	F. R. Austin.
Egg Harbor City .....	Atlantic .....	63	18	...	...	78	*3	30	*27	...	3.25	-0.94	1.47	0	6	25	5	1	nw.	Charles Saalman.
Friesburg .....	Salem .....	100	15	50.8	-6.2	78	3	25	31	33	3.60	-0.24	1.67	0	8	19	8	4	w.	H. C. Perry.
Vineland .....	Cumberland .....	118	40	51.2	-4.3	79	3	26	22	37	4.15	+0.55	1.75	0	7	24	3	4	uw.	Alfred Chalmers.
Canton .....	Salem .....	24	6	...	...	...	...	...	...	...	2.82	-1.12	1.40	0	7	26	2	3	...	J. H. Maskell.
Bridgeton .....	Cumberland .....	30	32	52.3	-4.7	80	*3	28	*22	35	3.51	-0.61	1.57	0	6	27	1	3	nw.	Henry A. Jorden.
Pleasantville .....	Atlantic .....	26	10	...	...	...	...	...	...	...	3.08	-1.19	1.55	0	7	26	0	5	...	L. Van Gilder.
Woodbine .....	Cape May .....	43	16	50.7	-5.4	76	3	25	*22	39	3.42	-0.37	1.63	0	6	19	7	5	w.	R. D. Maltby.
Cape May C. H. ....	do .....	19	20	52.4	-4.3	74	*3	30	31	29	2.99	-0.48	1.32	0	6	22	4	5	nw.	L. T. Garretson.
District averages .....	...	...	...	51.3	-4.7	...	...	...	...	...	3.59	-0.31	...	0	7	22	5	4	uw.	...
THE SEA COAST.																				
Oceanic .....	Monmouth .....	16	21	51.9	-3.5	74	3	29	22	33	2.92	-1.36	1.70	0	7	22	5	4	nw.	Prof. C. E. Dietz.
Long Branch .....	do .....	30	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	nw.	B. B. Bobbitt.
Asbury Park .....	do .....	22	19	51.6	-4.0	73	4	33	*25	30	3.27	-1.18	1.62	0	5	23	4	4	w.	B. H. Obert.
Atlantic City .....	Atlantic .....	16	32	52.3	-5.1	73	18	33	31	25	3.19	-0.11	1.90	0	7	21	5	5	nw.	Section Center.
Cape May City .....	Cape May .....	17	14	53.1	-4.5	70	18	32	31	24	3.19	-0.11	1.22	0	7	26	1	4	n.	U. S. Weather Bureau.
District averages .....	...	...	...	51.8	-4.3	...	...	...	...	...	3.14	-0.69	...	0	6	23	4	4	nw.	...

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

† Not considered in averages.

‡ Incomplete.

[illegible]



# Total Monthly Precipitation, October, 1907.



## TOTAL PRECIPITATION FOR OCTOBER, 1907.

Stations.	Day of month.																															Total.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
THE HIGHLANDS & KITTA-TINNY VALLEY.																																	
Layton				.67	.08			1.44				.09								.11								.11	1.92	.64		5.06	
Sussex				.67	.10			1.90			T.	.10								.15								.06	1.94	1.45		6.37	
Culver's Lake				.67	.13			2.04				.06								.17								.07	2.40	.74		6.31	
Newton																																	
Charlotteburg				.73	.11			2.20				.27								.18									*	*	2.87		6.36
Pompton Plains				.54	.24	.08		1.87				.07								.16								*	2.24	1.18	.12	6.50	
Boonton				.34	.16	.06		1.97			.04									.10			T.					*	1.96	1.70	.13	6.46	
Dover				.65	.14			2.30			.36									.11			.02					*	*	3.60		7.18	
Belvidere				.67	.16			1.38				.08								.08								.15	1.88	.42		4.82	
Phillipsburg				.49				1.47			*	.05								.08								.12	1.90	.52		4.63	
THE RED SAND STONE PLAIN.																																	
Mahwah				.45	.31			2.14			*	.12								.20								*	2.21	1.32	.16	6.91	
River Vale				.65				.80												.15								*	*	3.20		4.80	
Paterson			T.	.74	.12			1.12				.03								.06			T.					.23	2.55	.95		5.80	
Englewood				.39	.07			.72			.06	.03								.07								.62	1.52	.69		4.17	
Little Falls				.36	.25	.11		1.29				.04								.11			.01					*	2.01	1.82	.06	6.66	
South Orange				.38	.09			1.35			T.									T.								.22	2.10	1.15		5.29	
Chatham				.20	.15	.08		1.37				.08								.11								*	1.95	1.90	.12	5.96	
Newark				.44	.04			1.26			.01									.04								.53	3.40	.35		6.07	
New York, N. Y.				.38	.02			.68			.01	.32								.03								.57	1.40	.71		3.82	
Jersey City				.39	.08			.99			.03									.03								.14	1.96	.83		4.45	
Bayonne				.37	.03			1.02			T.	.03								.03		T.						.12	1.97	.71		4.28	
Bergen Point				.36	.06			.86												.06								.19	2.16	.83		4.52	
Elizabeth				.19	.09			.35			.50									T.								*	*	2.82		3.95	
Plainfield																																	
Somerville				.35		.07		1.12				.07								.07								.11	1.30	1.18		4.27	
Flemington				.37	.06			1.28				.02								T.	.25							.09	1.60	1.11		4.78	
New Brunswick				.05				1.25			.08									.08								.14	2.00	1.25		4.85	
College Farm				.50	T.	.07		1.36				.06										.08						.12	1.85	.91		4.95	
Runyon				.42	.09			1.07				.22								.05								*	1.25	.62		3.72	
Lambertville				.25	.03			1.10				.11								T.								.06	1.89	1.45		4.93	
THE SOUTHERN INTERIOR.																																	
Hightstown				.45		.05		.91				.07								T.									.06	1.78	.82		4.14
Trenton			*	.46				.56				.07								T.									.32	1.57	T.		2.98
Imlaystown				.25				.74												.08								*	2.33	.71		4.11	
Burlington				.15			.36	.70			.06									.05								1.25	1.87	.02		4.48	
Beverly			.02	.14				.87				.05								.03	T.			T.				.10	1.56	1.24		3.99	
Rancocas				.10				.87				.06								T.				T.				.25	1.25	1.50		4.03	
Brown's Mills																																	
Moorestown				.15				.87				.06								.01								.08	1.52	1.20		3.89	
Philadelphia, Pa.				.12				.82			.07									.03				T.		T.		.58	.61	1.15		3.38	
Toms River				.13				.50																				.82	1.25			2.70	
Indian Mills				.16				.81												T.	.07							.11	1.85	1.37		4.37	
Clayton				.11	.05			.84												T.	.07							.08	1.61	1.32		4.08	
Tuckerton				.13				.58													.06							.10	1.02	1.00		2.89	
Egg Harbor City				.02				.47												.09								*	1.20	1.47		3.25	
Friesburg				.13	.03			.77				.04										.10						.04	1.67	.82		3.60	
Vineland				.11				.66				.02								.16								.06	1.75	1.39		4.15	
Canton				.09	.10			.72			.04									.18									.140	.29		2.82	
Bridgeton				.19				.50												.15								*	1.57	1.10		3.51	
Pleasantville				.04	.05			.46												.02								.05	.91	1.55		3.08	
Woodbine				.05	.14			.25												T.	.16							.19	1.19	1.63		3.42	
Cape May C. H.				.03	.15			.33												T.	.16							.26	1.22	1.02		2.99	
THE SEA COAST.																																	
Oceanic				.30	.08			.47				.04																	.05	1.70	.28		2.92
Long Branch																																	
Asbury Park				.24	T.	.08		.68												T.									T.	1.62	.65		3.27
Atlantic City				.07	.01			.30												.08									.44	1.32	.97		3.19
Cape May City				.05	.16			.30												.18									.26	1.22	1.02		3.19

‡ Precipitation measured at 8 a. m., 75th meridian time.  
† Incomplete.

\* Precipitation included in that of following day.

T. Indicates amount too small to measure.



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U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR NOVEMBER, 1907.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

---

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF

WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.

WEATHER BUREAU OFFICE

DECEMBER 19, 1907

# Monthly Mean Isotherms and Prevailing Winds, November, 1907.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XX. ATLANTIC CITY, N. J., NOVEMBER, 1907. No. 11.

## GENERAL SUMMARY.

The mean temperature during November, 1907, was nearly normal and quite uniform for the season. The highest temperatures occurred during the first decade, and the lowest about the middle of the second decade. There was much cloudy and rainy weather, the average precipitation being decidedly above the normal and the greatest reported for November since 1898. The uniform geographical distribution of precipitation was a marked feature.

The mean temperature ranged from 38°, in the northwestern portion of Sussex County, to about 46°, in the southern portion of Cape May County. Over the greater part of the district the departures of mean temperature from the normal were slight, altho deficiencies amounting to about 1.5° per day occurred at several stations in Middlesex, Morris and Sussex counties, in the north, and in Cape May and Monmouth counties, in the south. In parts of Bergen, Burlington and Warren counties the temperature averaged about 1.5° per day above the normal. The first decade averaged somewhat warmer than usual and the second decade decidedly colder, while during the third decade the temperature was nearly normal. The maximum temperatures were slightly above 60° as a rule on several days during the first decade, after which period they were for the most part below 55°. The monthly maximum temperature is the lowest reported for November in a period of 21 years. Freezing weather at night occurred frequently thru the month, altho no exceptionally low minimum temperatures were reported.

The precipitation during the month generally exceeded 5 inches, and was above the normal thruout the district, the most marked excess occurring in the Highlands and Kittatinny Valley section. The regions of heaviest monthly precipitation included several of the northern counties, and limited portions of Atlantic, Cape May, Monmouth and Salem counties in the south, where more than 6 inches of rain were received. Precipitation occurred mostly in three well-defined periods, as follows: 2d-3d, 6th-10th, and 18th-26th, heavy to excessive rains falling on the 6th-7th and the 24th. There were only two well-marked periods of fair, or generally fair, weather during the month, namely, the 11th-17th, and 26th-30th. Snowfall, occurring principally on the 13th and 26th, formed merely a small percentage of the monthly precipitation.

Brisk to high southerly winds occurred frequently during

the first decade. The second decade was marked, on the 14th, by a severe northwest gale in the northern portion of the State, and the third decade, on the 24th, by a violent and general northeast gale.

## TEMPERATURE.

The monthly mean, 43.5°, is nearly normal, and practically the same as the mean for the corresponding month of 1906.

The local departures from the normal ranged from -1.7°, at Hightstown, to +1.7°, at Englewood.

The means for the various districts were as follows: The Highlands and Kittatinny Valley, 40.6°; Red Sand Stone Plain, 43.1°; Southern Interior, 44.4°; Sea Coast, 45.2°.

The highest monthly mean was 46.4°, at Cape May (46.8° at Cape May Court House for 16 days), and the lowest, 38.2°, at Layton.

The range of monthly mean temperature was 8.2°.

The maximum, 68°, occurred at Brown's Mills, on the 5th and 9th, and the minimum, 13°, at Layton, on the 15th.

The range within the State was 55°.

The mean daily range was 16.1°.

The greatest local monthly range, 50°, occurred at Brown's Mills and River Vale, and the least, 26°, at Atlantic City.

The greatest daily range, 42°, occurred at Brown's Mills, on the 5th.

## PRECIPITATION.

The average, 5.65 inches, is 2.34 inches above the normal, and 4.04 inches above the average for the corresponding month of 1906.

The local departures from the normal ranged from +0.19 of an inch, at Hightstown, to +3.95 inches, at Culver's Lake.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 5.90 inches; Red Sand Stone Plain, 5.60 inches; Southern Interior, 5.59 inches; Sea Coast, 5.68 inches.

The greatest amount, 6.95 inches, occurred at Egg Harbor City, and the least, 4.19 inches, at Hightstown.

The greatest amount in 24 consecutive hours, 2.69 inches, occurred at Egg Harbor City, on the 23d-24th.

Excessive precipitation occurred as follows: Canton, 23d-24th, 2.67 inches; Egg Harbor City, 23d-24th, 2.69 inches; Pleasantville, 24th, 2.65 inches.

The average snowfall, unmelted, was 0.8 of an inch. The greatest snowfall, 3.0 inches, was reported at Culver's Lake, Englewood and Tuckerton.

Measurable amounts of precipitation occurred on an average of 13 days.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 10; partly cloudy, 8; cloudy, 12. Sunshine was below the normal, the duration being less than 50 per cent of the possible. At Atlantic City the percentage of the possible amount was 48, and at Jersey City, 44.

## WIND.

West to northwest winds prevailed. High winds were reported on the 2d, 3d, 6th, 7th, 14th, 24th, and 25th. The following maximum velocities (for 5-minute periods) were reported: Atlantic City, 40 miles per hour, from the northeast, on the

24th; Cape May, 36 miles, northeast, on the 24th; Jersey City, 47 miles, northwest, on the 14th.

#### MISCELLANEOUS PHENOMENA.

*Aurora*.—Moorestown, 3d.

*Meteors*.—Rancocas, 9th; Oceanic, 10th.

*Sleet*.—Sleet was reported at 24 stations, on the 24th.

*Frost, killing* (first of the season).—Atlantic City, 14th.

*Lightning*.—Canton, 5th; Rancocas, 6th; Somerville, 2d.

*Halos, solar*.—Bergen Point, 29th; Indian Mills, 28th; Moorestown, 9th; Vineland, 29th.

*Halos, lunar*.—Asbury Park, 17th; Atlantic City, 19th; Bergen Point, 15th; Indian Mills, 19th, 29th; Jersey City, 22d; Moorestown, 19th, 20th; Newark, 14th; Rancocas, 19th, 29th; Vineland, 17th, 19th.

*Thunderstorms* (dates and number of reports).—2d, 3; 3d, 1; 6th, 6. Thunderstorms occurred at Weather Bureau stations as follows: Atlantic City, 6th; Cape May, 5th, 6th. Total number of reports, 13.

*Fog*.—Asbury Park, Atlantic City, Tuckerton, 22d; Bayonne, Cape May, 9th, 22d; Bergen Point, 13th, 18th, 21st, 22d; Hightstown, Trenton, 2d; Jersey City, 21st, 22d; Moorestown, 1st; Newark, 18th, 21st; Oceanic, 16th, 22d; Paterson, 21st; Phillipsburg, 9th, 30th; Rancocas, 6th.

#### DELAYED REPORT.

Plainfield, October, 1907.—Mean temperature, 49.2°; departure from the normal, -4.8°; highest, 74°, 4th; lowest, 25°, 22d and 25th; greatest daily range, 34°. Total precipitation, 4.30 inches; departure from the normal, +0.12 of an inch; greatest in 24 hours, 2.02 inches. Number of rainy days, 8; clear, 16; partly cloudy, 11; cloudy, 4. Prevailing wind direction, northwest.

#### PRECIPITATION DATA FOR NEWTON, SUSSEX COUNTY, N. J.

##### MONTHLY AND ANNUAL PRECIPITATION.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1882.	5.62	4.11	3.18	2.09	6.36	4.00	2.40	3.68	9.36*	2.60	1.20	1.85	46.45
1883.	3.44	3.14	2.33	3.94	2.92	4.83	4.00	1.43	2.85	6.64	1.66	3.31	40.49
1884.	4.31	4.64	4.33	2.29	3.42	2.37	5.31	4.80	1.43	3.72	3.95	5.25	45.82
1885.	5.41	3.82	1.38	1.97	2.99	1.39†	4.25	8.90*	0.77	5.02	5.34	3.08	44.32
1886.	3.95	4.13	4.09	3.11	6.42	2.68	3.84	4.14	1.76	2.85	6.24*	3.60	46.81
1887.	4.55	.....	.....	.....	1.23	4.25	.....	.....	.....	.....	.....	6.36	.....
1888.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1889.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1890.	.....	4.13	.....	2.65	7.17	3.03	5.01	5.38	4.52	6.71	0.61†	.....	.....
1891.	.....	.....	.....	.....	2.23	1.39†	3.68	4.48	1.57	1.88	1.23	4.30	.....
1892.	2.50	0.86	4.07	1.18	4.16	6.12	3.21	4.40	1.88	0.63†	5.86	1.77	36.64
1893.	2.25	7.77*	3.56	3.49	4.26	1.77	2.96	5.86	2.80	2.82	2.89	2.86	43.20
1894.	2.15	6.17	1.37†	3.06	5.09	1.81	1.40	1.04†	6.85	4.95	3.09	5.39	42.37
1895.	3.76	1.44	2.51	3.75	2.52	.....	3.47	3.33	0.91	4.39	2.06	2.48	.....
1896.	0.65†	.....	6.17*	.....	2.81	4.83	.....	.....	.....	.....	4.50	1.24†	.....
1897.	2.10	2.95	3.32	3.79	6.48	3.59	10.87*	.....	.....	1.20	5.11	4.20	.....
1898.	4.62	3.24	3.04	3.22	9.11*	2.13	4.39	7.31	0.65†	4.33	5.33	.....	.....
1899.	3.98	5.09	5.40	0.96†	2.75	4.18	8.43	3.30	6.21	1.56	2.40	2.48	46.74
1900.	3.50	4.79	3.14	2.61	5.01	2.87	5.04	1.62	2.24	2.07	2.98	2.58	38.45
1901.	1.81	0.78†	4.71	5.59*	5.24	2.19	8.90	8.36	4.95	1.85	2.17	7.52*	54.07
1902.	3.55	6.33	3.96	4.07	3.18	6.60	7.99	3.49	7.99	5.54	1.43	6.87	61.00
1903.	4.39	5.19	4.92	3.05	0.28†	12.83*	3.43	7.51	1.67	9.99*	1.44	4.39	59.09
1904.	3.46	2.02	3.32	3.60	3.60	3.86	6.00	4.45	6.34	4.10	1.03	3.10	44.88
1905.	6.05*	1.67	4.53	2.33	2.22	3.69	6.08	4.44	8.60	4.83	2.86	3.17	50.47
1906.	2.74	2.83	5.18	4.74	5.97	4.16	5.73	5.51	2.51	3.44	2.10	3.71	48.62
1907.	2.35	2.39	2.56	2.55	2.81	4.77	1.26†	.....	.....	.....	.....	.....	.....
M'ns	3.51	3.69	3.67	3.05	4.09	3.88	4.89	4.67	3.79	3.86	2.98	3.79	45.87

\*Greatest on record.

†Least on record.

Greatest annual amount, 61.00 inches, 1902.

Least annual amount, 36.64 inches, 1892. (The amount for 1895, with the record for June missing, is 30.62 inches. The

amount for June, 1895, is estimated to have been less than 3.50 inches).

Greatest monthly amount, 12.83 inches, June, 1903.

Least monthly amount, 0.28 of an inch, May, 1903.

Number of months (from incomplete record) with precipitation more than 10 inches, 2; less than 1 inch, 10.

Number of times in 258 months that the precipitation has exceeded the monthly normal: January, 11; February, 11; March, 10; April, 11; May, 11; June, 10; July, 10; August, 8; September, 8; October, 10; November, 8; December, 8; total, 116.

Excessive precipitation (2.50 inches, or more, in 24 hours, or less, from incomplete record, December, 1887, to July, 1907, inclusive): December 31, 1887, 2.64 inches; February 25-26, 1894, 2.92 inches; July 28-29, 1897, 3.70 inches; May 18-19, 1900, 2.74 inches; July 6, 1901, 2.56 inches; August 17-18, 1901, 2.70 inches; June 12, 1903, 3.84 inches; October 9, 1903, 3.10 inches; July 7, 1904, 3.75 inches; September 14-15, 1904, 5.10 inches; October 21, 1904, 2.50 inches; September 3, 1905, 5.30 inches; October 19-20, 1905, 3.06 inches.

Greatest amount in 24 hours, 6.10 inches, October 9, 1903.

Longest rainy period, June 7-15, 1903, 9 days; total precipitation, 9.31 inches.

Longest periods without measurable precipitation, February 9-27, 1895, and June 9-27, 1904, 19 days each.

Average annual number of rain and snowstorms, 106.

Average precipitation for spring, 10.81 inches; summer, 13.44 inches; autumn, 10.63 inches; winter, 10.99 inches.

Total precipitation for the wettest spring, 1906, 15.89 inches; for the wettest summer, 1903, 23.77 inches; for the wettest autumn, 1905, 16.29 inches; for the wettest winter, 1901-2, 17.40 inches.

Total precipitation for the driest spring, 1885, 6.34 inches; for the driest summer, 1894, 4.25 inches; for the driest autumn, 1891, 4.68 inches; for the driest winter, 1900-1, 5.17 inches.

*Snowfall* (record for 14 years).—Average monthly amounts: January, 13.3 inches; February, 13.2 inches; March, 7.7 inches; April, 0.7 of an inch; November, 2.6 inches; December, 8.2 inches; average annual amount, 45.7 inches.

Greatest annual amount, 69.0 inches, 1902.

Greatest winter amount (December, January and February), 65.0 inches, 1904-5; least winter amount, 14.0 inches, 1895-6.

Greatest monthly amount, 35.0 inches, January, 1905.

Greatest 24-hour amount, 24.0 inches, January 25, 1905.

#### COMPARATIVE STATE DATA FOR NOVEMBER.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1887.....	41.5	72	12	1.94
1888.....	45.8	77	8	3.97
1889.....	45.7	74	13	8.48
1890.....	43.8	74	11	0.82
1891.....	42.2	79	6	2.39
1892.....	41.9	76	13	7.29
1893.....	41.8	70	11	3.48
1894.....	40.3	76	11	3.34
1895.....	45.7	80	12	3.17
1896.....	48.2	83	12	3.05
1897.....	43.8	74	10	4.59
1898.....	42.4	70	11	6.76
1899.....	44.0	71	17	2.29
1900.....	47.5	79	15	3.43
1901.....	38.5	69	10	2.38
1902.....	49.3	80	20	2.20
1903.....	39.9	79	3	1.26
1904.....	40.2	69	6	2.18
1905.....	42.1	70	6	1.84
1906.....	43.6	70	8	1.61
1907.....	43.5	68	13	5.65



## CLIMATOLOGICAL DATA FOR NOVEMBER, 1907.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing direction of wind.	OBSERVERS.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.			Number cloudy days.
THE HIGHLANDS & KITTATINNY VAL.																				
Layton.....	Sussex.....	550	8	38.2	-1.4	59	3	13	15	35	5.18	+3.42	1.37	2.0	10	16	5	9	W.	Warren C. Hursh.
Sussex.....(b)	do.....	442	13	40.9	-0.2	59	2	18	15	31	5.23	+2.44	1.36	1.5	12	14	5	11	W	Prof. W. H. Seeley.
Culver's Lake.....	do.....	848	6	.....	.....	.....	.....	.....	.....	.....	5.70	+3.95	1.37	3.0	12	15	8	7	W.	B. E. Riker.
Newton.....	do.....	678	27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W.	Brice Bowman.
Charlotteburg.....	Passaic.....	719	15	40.0	...	58	9	14	15	36	6.52	+3.20	1.58	1.1	8	15	8	7	W.	G. S. Briggs.
Pompton Plains.....	Morris.....	195	5	.....	.....	.....	.....	.....	.....	.....	5.90	.....	2.28	1.5	12	.....	.....	.....	n.	River & Flood Service.
Baunton.....	do.....	413	10	.....	.....	.....	.....	.....	.....	.....	6.22	.....	2.36	1.5	13	.....	.....	.....	n.w.	River & Flood Service.
Dover.....(f)	do.....	575	23	39.0	-1.6	55	*2	18	15	27	6.93	+3.03	1.25	1.5	10	4	15	11	.....	William C. Harris.
Belvidere.....	Warren.....	289	17	42.0	+1.3	64	6	20	15	32	6.83	+3.56	1.14	2.3	12	15	2	13	.....	Samuel J. Hixson.
Phillipsburg.....	do.....	196	5	42.0	+0.4	59	*2	22	15	29	5.63	+2.30	1.37	2.0	15	13	7	10	W.	D. W. Smith.
District averages.....	.....	.....	.....	40.6	+0.4	.....	.....	.....	.....	.....	5.90	+2.88	.....	1.9	12	14	6	10	W.	.....
THE RED SAND STONE PLAIN.																				
Mahwah.....	Bergen.....	.....	5	.....	.....	.....	.....	.....	.....	.....	5.28	.....	1.62	1.3	11	.....	.....	.....	W.	River & Flood Service.
River Vale.....(b)	do.....	70	16	40.6	-0.5	66	5	16	15	38	7.45	-0.29	1.45	2.0	11	8	10	12	n.w.	G. S. M. Holdrum.
Paterson.....	Passaic.....	110	31	43.8	+0.6	62	5	24	15	32	5.27	+2.10	1.17	0.6	11	6	18	6	n.w.	H. A. Probert.
Englewood.....(f)	Bergen.....	135	17	45.0	+1.7	62	2	30	30	20	5.69	+2.45	1.92	3.0	11	7	7	16	n.w.	William C. Tucker.
Little Falls.....	Passaic.....	175	5	.....	.....	.....	.....	.....	.....	.....	6.00	.....	2.38	.....	.....	.....	.....	.....	n.	River & Flood Service.
South Orange.....	Essex.....	200	38	42.2	+0.7	60	3	23	15	26	5.18	+1.69	1.74	1.0	11	12	7	11	W.	W. J. Chandler, M. D.
Chatham.....	Morris.....	234	5	.....	.....	.....	.....	.....	.....	.....	6.35	.....	2.40	.....	.....	.....	.....	.....	W.	River & Flood Service.
Newark.....	Essex.....	140	65	43.4	.....	64	5	23	15	34	5.01	+1.41	1.04	0.2	11	3	13	14	W.	Wm. Wiener.
New York, N. Y.....	New York.....	314	37	45.2	+1.2	60	2	33	30	17	5.05	+1.61	1.90	T.	11	8	9	13	W.	U. S. Weather Bureau.
Jersey City.....	Hudson.....	15	2	44.8	.....	60	*5	28	15	23	5.34	.....	1.89	T.	11	6	8	16	n.w.	Samuel K. Pearson, Jr.
Bayonne.....	do.....	50	17	43.6	-0.1	61	5	25	15	28	4.97	+1.58	1.45	T.	13	9	7	14	W.	John H. Eadie.
Bergen Point.....	do.....	37	10	43.8	+0.3	64	10	25	15	29	6.60	+3.37	2.46	0.2	13	5	12	13	n.w.	Dr. W. H. Mitchell.
Elizabeth.....	Union.....	33	28	43.9	+0.5	60	5	25	15	26	4.99	+1.44	1.90	1.0	11	15	7	8	.....	W. M. Oliver.
Plainfield.....	do.....	100	17	42.1	-0.1	61	5	21	15	32	6.01	+2.27	1.53	2.0	13	9	11	10	n.w.	John Neagle.
Somerville.....	Somerset.....	76	28	42.6	+0.3	60	*3	20	15	28	5.94	+2.81	1.15	1.5	13	9	3	18	W.	Peter Hardcastle.
Flemington.....	Hunterdon.....	187	10	43.0	+0.7	60	*1	22	15	31	5.95	+3.23	1.33	1.5	12	14	6	10	W.	H. E. Deats.
New Brunswick.....	Middlesex.....	61	54	42.2	-1.5	64	5	19	15	32	6.00	+2.28	1.65	1.0	12	12	7	11	W.	Wm. T. Woerner.
College Farm.....	do.....	100	12	42.1	-1.5	64	5	20	15	36	5.48	+2.18	1.17	1.2	12	12	7	11	n.w.	George G. Manning.
Runyon.....	do.....	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	W.	J. H. Cottrell.
Lambertville.....	Hunterdon.....	95	21	42.8	.....	60	5	20	15	29	5.73	+2.39	1.85	0.5	10	13	6	11	n.w.	William R. Bowne.
District averages.....	.....	.....	.....	43.1	.....	.....	.....	.....	.....	.....	5.60	+2.19	.....	0.9	12	9	9	12	W.	.....
THE SOUTHERN INTERIOR.																				
Hightstown.....	Mercer.....	85	16	43.3	-0.3	63	2	22	15	29	4.19	+0.19	1.14	T.	11	11	4	15	n.w.	Ernst Wenger.
Trenton.....	do.....	60	38	45.8	-0.6	64	5	22	15	31	5.52	+1.63	1.23	T.	11	1	17	12	n.w.	E. R. Cook.
Imlaystown.....	Monmouth.....	106	21	42.8	-1.7	63	*2	21	15	33	4.61	+1.08	1.25	0.4	12	12	7	11	W.	F. C. Price, M. D.
Burlington.....	Burlington.....	12	15	.....	.....	.....	.....	.....	.....	.....	5.47	+2.07	1.33	0.2	13	11	7	12	.....	D. S. B. McCoy.
Beverly.....	do.....	30	23	43.6	-0.4	63	5	21	15	33	5.12	+1.67	1.96	T.	11	6	14	10	W.	C. F. Richardson.
Rancocas.....	do.....	68	22	.....	.....	65	2	24	15	33	5.37	+1.76	1.44	0.3	13	6	5	16	n.w.	Spencer Haines.
Brown's Mills.....(e)	do.....	71	1	42.8	.....	68	*5	18	15	42	5.36	.....	1.65	T.	12	.....	.....	.....	n.w.	M. W. Hargrove.
Moorestown.....	do.....	71	43	43.8	+1.0	62	*2	21	15	30	5.46	+1.89	1.70	0.4	14	11	4	15	W.	John C. Beans.
Philadelphia, Pa.....	Philadelphia.....	117	37	46.4	+1.5	60	2	31	15	19	5.85	+2.79	2.21	0.7	11	7	7	16	n.w.	U. S. Weather Bureau.
Toms River.....(m)	Ocean.....	33	16	43.6	-0.2	63	*5	16	15	36	.....	.....	.....	T.	.....	.....	.....	.....	W.	F. G. Bunnell.
Indian Mills.....	Burlington.....	76	7	43.9	+0.7	67	5	18	15	38	4.94	+2.48	1.58	0.8	12	9	11	10	n.w.	James Armstrong.
Clayton.....	Gloucester.....	126	11	44.2	+0.3	65	5	22	15	33	5.85	+2.71	.....	T.	13	14	4	12	n.w.	Wm. T. Farley.
Tuckerton.....	Ocean.....	23	10	43.9	-0.1	64	3	19	15	31	5.89	+3.34	2.00	3.0	14	9	8	13	n.w.	F. R. Austin.
Egg Harbor City.....	Atlantic.....	63	18	.....	.....	.....	.....	.....	.....	.....	6.95	+3.30	2.69	0.2	12	14	8	8	n.	Charles Saalman.
Friesburg.....	Salem.....	100	15	44.2	-0.1	64	5	23	15	32	5.71	+2.84	1.62	T.	15	6	11	13	W.	H. C. Perry.
Vineland.....(f)	Cumberland.....	118	40	44.5	+0.6	64	*5	23	15	33	5.89	+2.43	1.81	T.	14	8	14	8	n.w.	Alfred Chalmers.
Canton.....	Salem.....	24	6	.....	.....	.....	.....	.....	.....	.....	6.23	+3.74	2.67	T.	10	15	4	11	.....	J. H. Maskell.
Bridgeton.....	Cumberland.....	30	32	45.4	-0.5	65	5	24	15	33	5.97	+2.93	1.83	T.	14	13	4	13	n.w.	Henry A. Jorden.
Pleasantville.....	Atlantic.....	26	10	.....	.....	.....	.....	.....	.....	.....	5.83	+2.77	2.65	2.0	12	12	6	12	.....	L. Van Gilder.
Woodbine.....	Cape May.....	43	16	44.9	+0.6	65	2	21	15	33	5.78	+3.01	1.80	2.2	13	7	10	13	W.	R. D. Maltby.
Cape May C. H. (p).....	do.....	19	20	46.8	+0.2	64	10	24	15	24	6.16	+3.57	1.98	1.5	13	9	8	13	n.w.	L. T. Garretson.
District averages.....	.....	.....	.....	44.4	.....	.....	.....	.....	.....	.....	5.59	+2.35	.....	0.6	13	9	8	13	n.w.	.....
THE SEA COAST.																				
Oceanic.....	Monmouth.....	16	21	44.2	-0.8	60	10	24	15	28	5.05	+1.42	1.38	T.	16	13	6	11	n.w.	Prof. C. E. Dietz.
Long Branch.....	do.....	30	.....	45.2	.....	64	11	24	15	26	6.17	.....	1.37	T.	14	15	5	10	n.w.	B. B. Bobbitt.
Asbury Park.....	do.....	22	19	44.7	+0.1	61	10	29	15	20	5.65	+2.51	1.35	T.	16	8	11	11	W.	B. H. Obert.
Atlantic City.....	Atlantic.....	16	32	45.7	+0.2	58	3	32	17	19	5.67	+2.44	2.29	T.	14	10	5	15	n.	Section Center.
Cape May City.....	Cape May.....	17	14	46.4	-1.0	60	10	32	30	17	5.85	+2.63	2.03	0.5	16	7	11	12	n.	U. S. Weather Bureau.
District averages.....	.....	.....	.....	45.2	-0.4	.....	.....	.....	.....	.....	5.68	+2.28	.....	0.1	15	11	7	12	n.	.....

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

† Not considered in averages.

‡ Incomplete.

[illegible]



# Total Monthly Precipitation, November, 1907.



SCALE OF SHADES—INCHES

	Less than 2
	2 to 4
	4 to 6
	6 to 8
	More than 8

## TOTAL PRECIPITATION FOR NOVEMBER, 1907.

Stations.	Day of month.																															Total.		
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.			
THE HIGHLANDS & KITTA-TINNY VALLEY.																																		
Layton		*	1.05			.84	1.37			.17								.07	.32		.16			1.00		.20							5.18	
Sussex	.10	.95				.84	1.36			.28				T.				.08	.32		.12	.03		.20	.80	.15							5.23	
Culver's Lake	.34	.98	T.			1.10	1.37			.25				T.				.08	.34		.32	.06		.35	.37	.14							5.70	
Newton																																		
Charlotteburg	1.58					*	2.95			.32			T.					*	.65					.91		.11							6.11	
Pompton Plains	T.	.89	T.			.06	2.28			.39				T.				*	.78		.04	.41		.25	.67	.13							5.90	
Boonton	T.	.91				.08	2.36	.02		.32				T.				*	.79		.04	.59		.30	.71	.10							6.22	
Dover	1.25					*	2.60	.02		.44								*	.65					1.20		.25							6.93	
Belvidere	.36	1.00				1.12	1.14		.08	.29				T.				.74		.37	.13		.88	.57	.15								6.83	
Phillipsburg	.39	.98				.65	.75	.08	.03	.26								.28	.38		.44	.05		.68	.33	.12	.01						5.63	
THE RED SAND STONE PLAIN.																																		
Mahwah	1.12					.10	1.62			.42			T.					*	.59		.05	.36		.10	.81	.11							5.28	
River Vale																																		
Paterson	.85					1.17	.86	T.		.30				T.				.15	.68	*	.31		.66	.20	.09								5.27	
Englewood	.67					1.92	.03			.11			.20					.61	.27		.19		T.	1.47	.02	.20								5.66
Little Falls	T.	.92				.05	2.38	.02		.31								*	.91	.03	.31		.30	.69	.08								6.00	
South Orange	.70	.02					1.74	.02		.21								.55	.40		.50		T.	.93	T.	.11								5.18
Chatham	T.	.85				.04	2.40			.33								*	.95	.06	.42		.15	.95	.22								6.35	
Newark	.55	.10				*	2.15			.08								.66	.34		.07	T.		1.04		.02								5.01
New York, N. Y.	.59	T.				1.89	.03	.01		.09				T.				.58	.21		.17		T.	1.41	.02	.05								5.05
Jersey City	.67					1.54	.35	.01	.01	.17				T.				.03	.78		.17	.04	*	1.03	.47	.07	T.							5.34
Bayonne	.19	.37				1.45	.47	T.	.02	.16	T.			T.				.14	.67		.15	.01	1.13	.12	.09	T.							4.97	
Bergen Point	.30	.45				2.46	.43	T.	.03	.14								.22	.70		.24		.02	1.34	.17	.10								6.60
Elizabeth	.33					*	1.90			.23								*	.85		*	.33	*	1.25		.10								4.90
Plainfield	.30	.28				1.53	.67	.05		.28				T.				.23	.79		.37		*	1.33	.03	.15								6.01
Somerville	.30	.48				1.15	.80	T.	.10	.35				T.				.15	.82		.28	.03	1.05	.28	.15									5.94
Flemington	.82					.79	.74	T.	.10	.37				T.				.14	.75		.40	.03	1.33	.33	.15									5.95
New Brunswick	.10	.50				*	2.13	.08		.22				T.				*	.92		.20		.10	1.65		.10								6.00
College Farm	.07	.53				.98	.87	.07		.20				T.				.08	.84		.20	T.		1.17	.35	.12								5.48
Runyon																																		
Lambertville	1.01					*	1.30	.06		.27				T.				*	.91		.23			1.85		.10								5.73
THE SOUTHERN INTERIOR.																																		
Hightstown		.44				*	1.14		.08	.26				T.				.10	.85		.14		*	1.07		.11								4.19
Trenton	.17	.60				.83	.40	T.		.30			T.					.38	.65		.14		*	1.69		.06								5.52
Inlaystown	.60					*	1.03	.02		.32			.01					1.08			.15		*	1.25		.15								4.61
Burlington	.72					1.21		.03	.02	.27		.02						1.00	.04	.12		.59	1.33		.12									5.47
Beverly	.31	.16				.55	.48	T.	.03	.35		.02						.35	.63		.11	T.	.02	1.96	.05	.10								5.12
Rancocas	.75					.57	.70	.02		.50			T.					.30	.80		.11	T.	.04	1.40	.05	.12								5.37
Brown's Mills	*	.48				*	1.00			.26			T.					1.60	.21			*	1.16	.60	T.									5.36
Moorestown	.67					.59	.60	T.	.03	.38		*	.02					.15	.95	T.	.11	.02	*	1.52	.32	.13								5.48
Philadelphia, Pa.	.67					1.04	.28	T.	.35				T.					.95	.04	T.	.14	T.	.12	2.14	.03	.09								5.85
Toms River																																		
Indian Mills	T.	.42				.81		T.	.05	.18			.05					.20	.77		.20	.08	T.	1.58	.46	.14								4.94
Clayton	*	.80				.81	.63	.03		.21			T.					.90			*	*	*	2.47	T.									5.89
Tuckerton	*	.45				.40	.75			.13			.27					.20	.55		.20	.11	*	2.00	.75	.08								5.80
Egg Harbor City	*	.85				*	1.16			.18		.02						1.03			.26		*	2.60	.76									6.95
Friesburg	.11	.40				.58	1.35	.01	.01	.18			.03					.77			.13	.04	T.	1.62	.43	.10								5.76
Vineland	.02	.52				1.09	.77	T.	.25				.04					.04	.64		.34	.06	.02	1.81	.23	.06								5.89
Canton	.39					.63	1.25		.21				T.					*	.79		.19		*	2.67		.10								6.23
Bridgeton	.55					*	1.83	T.		.25		*	.05					*	.80		.15	.04	1.25	.70	.25	.15								5.97
Pleasantville	.05	.30				.85	.47		.07	.07			.05					.15	.72		.12		.32	2.65	.08									5.83
Woodbine	.40					.93	1.05	T.	.03	.62		.22						.05	.62		.15	.18	.05	1.80	.20	.06								5.78
Cape May C. H.	.04	.33				1.12	1.00		.03			.21						*	.94			*	.46	*	1.98	.05								6.16
THE SEA COAST.																																		
Oceanic		.12	.54			.86	.52	*	.05	.24			.04					.09	.98		.10	.07	*	.91	.42	.11								5.05
Long Branch	*	.60				.93	.59			.44			.07					.21	.96		.15	.03	*	1.37	.72	.10								6.17
Asbury Park	.07	.55				1.12	.32	T.	.06	.10			.07					.08	1.00		.09	.07	*	1.35	.69	.08								5.65
Atlantic City	.27					.92	.42	T.	T.	.03		.09	.18					.93	.05		.23	.02	.17	2.28	.01	.07								5.67
Cape May City	.38				.01	1.19	.35	.01	T.	.01		.05	.07					.66	.34		.08	.20	.37	2.03	.05	.05								5.89



U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR DECEMBER, 1907.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF

WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.

WEATHER BUREAU OFFICE

JANUARY 15, 1908

Monthly Mean Isotherms and Prevailing Winds, December, 1907.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XX. ATLANTIC CITY, N. J., DECEMBER, 1907. No. 12.

## GENERAL SUMMARY.

December, 1907, as a whole, was mild and generally free from sudden and decided changes of temperature. The mean temperature of the last decade was exceptionally high. The precipitation was quite evenly distributed and exceeded the normal generally. There was about the usual amount of sunshine.

The monthly mean temperature ranged from 31°, in the northwestern portion of Sussex County, to about 40°, in the southern part of Cape May County, and was above the normal thruout the State. The temperature excess averaged about 3° per day, being most marked in the interior. The first decade averaged colder than usual, the minimum temperatures of the month occurring for the most part on the 5th. The temperature during the second decade was practically normal and remarkably uniform for the season. Unseasonably mild weather prevailed during the last decade, the maximum temperatures of the month occurring generally on the 23d and 28th. The monthly maximum temperature, 70°, was somewhat higher than usual, and the month past without zero temperature.

The total precipitation ranged from about 3.50 to slightly more than 7 inches, the greatest amounts being reported from stations along the coast. As compared with the normal, there was a slight deficiency over portions of Bergen and Sussex counties, in the north, and a small part of Salem County, in the southwest. The normal was exceeded elsewhere, the excess being most pronounced over the counties bordering on the ocean, where exceptionally heavy rains occurred on the 4th. Precipitation occurred generally thruout the district on the following-named dates: 1st to 4th, 9th-10th, 14th-15th, 18th, 23d, and 30th. The precipitation during the first four days was mostly in the form of snow, the amounts ranging from traces, on the southeastern coast, to about 6 inches, in the extreme northern counties. Several inches of snow (followed by rain) also fell over a large part of the interior on the 14th, and slight amounts were reported from numerous stations on the 18th. Heavy rains fell on the 10th, 14th, and 23d. In the interior of the State snow covered the ground to slight depths during most of the first decade, and depths ranging from 1 to 3 inches were also reported in the northern portions of the district near the middle of the month. There was no snow on the ground after the 21st.

High winds occurred frequently during the month.

## TEMPERATURE.

The monthly mean, 36.6°, is 3.1° above the normal, and 3.6° above the mean for the corresponding month of 1906.

The local departures from the normal ranged from +1.3°, at Dover, to +5.6°, at Layton.

The means for the various districts were as follows: The Highlands and Kittatinny Valley, 33.0°; Red Sand Stone Plain, 36.1°; Southern Interior, 37.9°; Sea Coast, 38.5°.

The highest monthly mean was 41.0°, at Cape May Court House, and the lowest, 31.0°, at Layton.

The range of monthly mean temperature was 10.0°.

The maximum, 70°, occurred at Toms River, on the 28th, and the minimum, 3°, at Layton, on the 20th.

The range within the State was 67°.

The mean daily range was 15.3°.

The greatest local monthly range, 55°, occurred at Brown's Mills, and the least, 33°, at Cape May City.

The greatest daily range, 40°, occurred at Brown's Mills, on the 8th.

## PRECIPITATION.

The average, 4.91 inches, is 1.10 inches above the normal, and 0.92 of an inch above the average for the corresponding month of 1906.

The local departures from the normal ranged from -0.37 of an inch, at Englewood, to +3.39 inches, at Atlantic City.

The averages for the various districts were as follows: The Highlands and Kittatinny Valley, 5.14 inches; Red Sand Stone Plain, 4.84 inches; Southern Interior, 4.71 inches; Sea Coast, 5.44 inches.

The greatest amount, 7.13 inches, occurred at Atlantic City, and the least, 3.55 inches, at Sussex.

The greatest amount in 24 consecutive hours, 3.52 inches, occurred at Atlantic City, on the 14th.

Excessive precipitation occurred as follows: Atlantic City, 14th, 3.52 inches; Cape May Court House, 14th, 2.89 inches; Pleasantville, 14th, 2.94 inches; Tuckerton, 14th, 2.60 inches; Woodbine, 14th, 2.50 inches.

The average snowfall, unmelted, was 5.9 inches, the averages for the various districts being as follows: The Highlands and Kittatinny Valley, 9.1 inches; Red Sand Stone Plain, 7.0 inches; Southern Interior, 4.2 inches; Sea Coast, 3.2 inches. The greatest monthly snowfall, 10.5 inches, occurred at Dover, and the greatest 24-hour amount, 6.0 inches, at Sussex, on the 14th.

Measurable amounts of precipitation occurred on an average of 9 days.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 12; partly cloudy, 8; cloudy, 11. The duration of sunshine was nearly normal, the percentage of the possible amount at Atlantic City the being 55, and at Jersey City, 47.

## WIND.

West winds prevailed. High winds were reported on the 5th, 10th, 11th, 14th, 23d, 30th, and 31st. The following maximum velocities (for 5-minute periods) were reported: Atlantic City, 34 miles per hour, from the south, on the 10th; Cape May City, 40 miles, northeast, on the 14th; Jersey City, 56 miles, northeast, on the 14th.

## MISCELLANEOUS PHENOMENA.

*Lightning*.—Canton, 3d; Vineland, 30th.

*Meteors*.—Plainfield, 8th; Trenton, 12th.

*Thunderstorms*.—College Farm, Somerville, 23d; Canton, 30th; Culver's Lake, New Brunswick, 23d, 30th.

*Halos, solar*.—Atlantic City, 7th, 13th, 17th, 26th, 27th; Imlaystown, 20th; Rancocas, 13th; Vineland, 17th.

*Halos, lunar*.—Asbury Park, Oceanic, 13th, 17th; Atlantic City, 13th, 17th, 22d; Bayonne, Jersey City, Rancocas, 13th; Bergen Point, 17th; Indian Mills, Toms River, 22d; Newark, 13th, 16th, 22d; Vineland, 18th.

*Sleet*.—Asbury Park, Atlantic City, Bergen Point, Boonton, Cape May, Culver's Lake, Englewood, Imlaystown, Jersey City, Layton, Little Falls, Moorestown, Newark, Paterson, Phillipsburg, Plainfield, Rancocas, Somerville, 14th.

*Fog*.—Atlantic City, Cape May, 10th, 14th, 23d, 30th; Bayonne, 15th, 23d, 30th; Bergen Point, 8th, 9th, 10th, 27th, 28th, 29th, 30th; Beverly, 27th, 30th; Boonton, Patterson, 23d, 27th, 28th; Burlington, Canton, Clayton, Indian Mills, Vineland, 27th; Cape May Court House, 23d; Culver's Lake, Englewood, 23d, 30th; Jersey City, 8th, 9th, 23d, 27th; Lambertville, Somerville, 27th, 28th; Long Branch, 15th, 23d; Moorestown, 9th, 27th; Oceanic, 8th; Phillipsburg, 27th, 28th, 30th; Pompton Plains, Sussex, 28th; Rancocas, 9th, 10th, 14th, 15th, 27th; Toms River, 9th, 22d; Trenton, 9th, 22d, 27th, 28th; Tuckerton, 10th, 30th.

## REMARKS BY OBSERVERS.

**DOVER**: The monthly snowfall was slightly above the December average. The ground was well covered with snow during most of the first decade, and from the 14th to the 22d.—W. C. Harris.

**PHILLIPSBURG**: The ground was covered with measurable depths of snow on 12 days during the month. The weather however, was generally milder than usual.—D. W. Smith.

**JERSEY CITY**: The conditions on the 4th were favorable for the first sleighing of the season. A violent easterly gale, with wind velocity of 56 miles per hour, occurred on the 14th.—S. K. Pearson, Jr.

**BERGEN POINT**: The month as a whole was decidedly mild. At the end of the month the ground was unfrozen.—W. H. Mitchell.

**SOMERVILLE**: A severe windstorm, attended by rain, sleet and snow, occurred on the 14th, causing considerable damage to trees and overhead wires.—P. Harcastle.

**HIGHTSTOWN**: The weather, generally, was mild and pleasant. Several snows occurred, but the depths on the ground disappeared quickly. No well-defined cold waves occurred.—Ernst Wenger.

**MOORESTOWN**: The weather during the month was milder than usual and very favorable for outdoor work. The ground was free from snow during a large part of the month.—J. C. Beans.

**CANTON**: Trees and fences were considerably damaged by high winds on the 14th.—J. H. Maskell.

**ATLANTIC CITY**: About 50 per cent of the monthly pre-

cipitation occurred during one storm, on the 14th, 3.52 inches being recorded. Rain fell at an excessive rate for two hours. The maximum amount for one hour was 1.21 inches.—Local Office, Weather Bureau.

## CORRECTIONS.

January, 1907, report, page 5.—Trenton, mean temperature, 30.4°, should be 34.0°.

February, 1907, report, page 13.—Cape May Court House, total snowfall, 21.1 inches, should be 22.1 inches.

March, 1907, report, page 21.—River Vale, total precipitation, omitted, should be 2.45 inches; departure from the normal should be -2.11 inches; number of rainy days should be 6. Cape May Court House, total snowfall, 1.07 inches, should be 10.7 inches.

April, 1907, report, page 28.—Temperature data for Atlantic City, N. J., 2d column: The "length of the season," 172 days, should be 206 days. Page 29: South Orange, departure from the normal precipitation, -0.38 inch, should be +0.38 inch.

May, 1907, report, page 35.—Average precipitation for the Sea Coast district, 6.17 inches, should be 6.12 inches.

June, 1907, report, page 45.—Mahwah, total precipitation, omitted, should be 4.48 inches; number of rainy days should be 12.

August, 1907, report, page 61.—Clayton, total precipitation, 5.59 inches, should be 5.79 inches. Tuckerton, total precipitation, 7.57 inches, should be 7.58 inches.

October, 1907, report, page 77.—Beverly, total precipitation, 3.39 inches, should be 3.99 inches.

November, 1907, report, page 85.—Plainfield, departure from the normal precipitation, 2.27 inches, should be 2.47 inches. Moorestown, total precipitation 5.46 inches, should be 5.49 inches. Friesburg, total precipitation, 5.71 inches should be 5.76 inches. Departures from the normal temperature [for Charlotteburg, Newark, Lambertville, and the Red Sand Stone Plain and the Southern Interior districts omitted, should be 0.0.

## COMPARATIVE STATE DATA FOR DECEMBER.

Year.	Temperature.			Average precipitation
	Mean.	Highest.	Lowest.	
1887.....	33.7	63	6	5.29
1888.....	34.9	66	5	3.69
1889.....	41.5	71	8	1.62
1890.....	30.9	56	3	3.89
1891.....	40.9	78	9	4.25
1892.....	30.4	69	1	1.87
1893.....	34.9	70	5	3.39
1894.....	34.8	66	-3	4.36
1895.....	37.2	76	3	2.61
1896.....	31.3	64	-15	1.43
1897.....	35.1	69	-3	4.90
1898.....	33.3	66	-2	3.53
1899.....	35.5	69	-1	2.11
1900.....	34.4	64	-2	2.59
1901.....	32.6	68	-12	7.30
1902.....	31.7	62	-11	7.23
1903.....	28.6	55	-13	4.08
1904.....	27.0	60	15	3.19
1905.....	36.3	61	5	3.65
1906.....	33.0	70	-5	3.99
1907.....	36.6	70	3	4.91



## CLIMATOLOGICAL DATA FOR DECEMBER, 1907.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing direction of wind.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in hours.	Total snowfall (in melted).	Number rainy days.	Number clear days.	Number partly cloudy days.			Number on days.
THE HIGHLANDS & KITTATINNY VAL.																				
Layton.....	Sussex.....	550	8	31.0	+3.6	50	10	3	20	15	4.73	+0.1	2.45	8.5	10	12	8	11	W.	Warren C. Hursh.
Sussex.....	do.....	442	13	33.2	+3.7	57	10	13	25	28	3.55	+0.15	1.30	9.5	6	1	9	9	sw.	Prof. W. H. Seeley.
Culver's Lake.....	do.....	848	6	31.0	+3.7	57	10	13	25	28	5.79	+1.72	2.28	9.9	13	10	11	10	W.	B. E. Riker.
Newtown.....	do.....	678	27	31.0	+3.7	57	10	13	25	28	5.79	+1.72	2.28	9.9	13	10	11	10	W.	B. H. Kienbaum.
Charlotteburg.....	Passaic.....	719	15	33.0	+3.4	59	8	13	25	33	5.71	+1.23	1.90	9.0	9	11	14	6	sw.	G. S. Briggs.
Pompton Plains.....	Morris.....	195	5	31.0	+3.4	59	8	13	25	33	5.71	+1.23	1.90	9.0	9	11	14	6	sw.	River & Flood Service.
Boniton.....	do.....	413	10	31.0	+3.4	59	8	13	25	33	5.71	+1.23	1.90	9.0	9	11	14	6	sw.	River & Flood Service.
Dover.....	do.....	575	23	31.9	+1.3	55	10	13	5	29	6.10	+1.38	1.66	9.0	12				sw.	William C. Harris.
Belvidere.....	Warren.....	289	17	31.2	+3.6	58	10	14	20	26	4.74	+0.79	1.41	7.7	12	16	4	11	sw.	Samuel J. Hixson.
Phillipsburg.....	do.....	196	5	31.5	+3.2	58	10	16	5	26	4.42	+0.68	1.48	9.1	14	12	5	14	W.	D. W. Smith.
District averages.....				33.0	+3.0						5.14	+1.14		9.1	10	12	8	11	W.	
THE RED SAND STONE PLAIN.																				
Mahwah.....	Bergen.....	70	5	31.0	+3.4	58	10	17	5	24	5.39	+0.1	1.64	8.5	11				nw.	River & Flood Service.
River Vale.....	do.....	70	16	31.0	+3.4	58	10	17	5	24	5.39	+0.1	1.64	8.5	11				nw.	G. S. M. Holdrum.
Patterson.....	Passaic.....	110	31	36.4	+3.4	58	10	17	5	24	5.51	+1.62	1.55	7.4	9	4	20	7	nw.	H. A. Probert.
Englewood..... (1)	Bergen.....	135	17	35.8	+2.5	57	10	17	5	24	4.20	+0.37	1.41	5.0	10	11	8	12	nw.	William C. Tucker.
Little Falls.....	Passaic.....	175	5	31.0	+3.4	58	10	17	5	24	5.53	+0.1	1.73	8.5	12				W.	River & Flood Service.
South Orange.....	Essex.....	200	38	35.4	+3.4	57	10	17	5	24	4.77	+0.96	1.58	7.0	7	9	10	12	W.	W. J. Chandler, M. D.
Chatham.....	Morris.....	234	5	31.0	+3.4	58	10	17	5	24	5.32	+0.1	1.77	7.9	12				W.	River & Flood Service.
Newark.....	Essex.....	140	65	36.4	+2.8	57	10	16	5	28	4.87	+1.12	1.86	7.9	11	6	15	10	sw.	Wm. Wiener.
New York, N. Y.....	New York.....	314	37	37.8	+3.1	58	23	19	5	18	3.91	+0.46	1.35	4.4	10	7	13	11	W.	U. S. Weather Bureau.
Jersey City.....	Hudson.....	15	2	37.1	+3.1	56	23	18	5	20	4.43	+0.1	1.47	6.2	10	6	9	16	W.	Samuel K. Pearson, Jr.
Bayonne.....	do.....	50	17	36.4	+2.7	59	23	18	5	26	4.34	+0.85	1.55	6.0	11	13	5	13	W.	John H. Eadie.
Bergen Point.....	do.....	37	10	36.6	+4.2	59	23	19	5	26	4.80	+0.52	1.60	5.5	10	9	14	8	nw.	Dr. W. H. Mitchell.
Elizabeth.....	Union.....	33	28	36.6	+3.3	58	10	18	5	24	5.16	+1.44	1.85	8.5	10	19	4	8	sw.	W. M. Oliver.
Plainfield.....	do.....	100	17	35.0	+2.6	58	10	15	5	28	4.45	+0.62	1.61	5.8	11	10	11	10	sw.	John Neagle.
Somerville.....	Somerset.....	76	28	35.1	+2.8	59	10	15	5	26	4.75	+0.94	1.60	5.0	9	7	8	16	W.	Peter Harcastle.
Flemington.....	Hunterdon.....	187	10	35.2	+4.2	58	10	16	5	33	4.79	+0.96	1.45	8.5	10	14	3	14	W.	H. E. Deats.
New Brunswick (1).....	Middlesex.....	61	54	35.4	+2.2	59	10	11	5	28	5.00	+1.29	1.65	10.0	9	19	1	11	W.	Wm. T. Woerner.
College Farm.....	do.....	100	12	35.2	+3.2	59	10	13	5	32	2.47	+1.27	0.85	3.8	7	17	5	9	W.	George G. Manning.
Runyon.....	do.....	18	21	36.0	+2.8	59	28	17	5	33	1.64	+1.13	1.46	7.0	9	19	5	7	nw.	A. H. Cottrell.
Lambertville.....	Hunterdon.....	95	21	36.1	+3.2	59	28	17	5	33	4.84	+0.97		7.0	10	11	9	11	W.	William R. Bowne.
District averages.....				36.1	+3.2															
THE SOUTHERN INTERIOR.																				
Hightstown.....	Mercer.....	85	16	36.6	+3.6	59	28	17	5	26	3.84	+0.26	1.25	5.0	6	13	5	13	W.	Ernst Wenger.
Trenton.....	do.....	60	38	39.2	+2.1	61	23	18	5	27	4.81	+1.34	1.55	4.2	6	1	21	9	nw.	E. R. Cook.
Inlaystown.....	Monmouth.....	106	21	36.6	+1.8	61	23	17	5	31	4.04	+0.61	1.38	5.0	8	14	8	9	nw.	F. C. Price, M. D.
Burlington.....	Burlington.....	12	15	36.8	+2.7	62	28	16	5	30	4.47	+0.42	1.46	5.5	9	16	3	12	sw.	D. S. B. McCoy.
Beverly.....	do.....	30	23	36.8	+2.7	62	28	16	5	30	4.47	+0.42	1.46	5.5	9	16	3	12	sw.	C. F. Richardson.
Rancocas.....	do.....	68	22	36.8	+2.7	62	28	16	5	30	4.47	+0.42	1.46	5.5	9	16	3	12	sw.	Spencer Haines.
Brown's Mills.....	do.....	71	1	36.0	+4.0	65	28	10	13	40	5.84	+0.20	2.00	6.7	10				W.	M. W. Hargrove.
Moorestown.....	do.....	71	43	37.2	+4.0	62	28	17	5	30	4.25	+0.73	1.68	6.0	12	12	7	12	W.	John C. Beans.
Philadelphia, Pa.....	Philadelphia.....	117	37	39.3	+3.6	62	23	21	5	24	4.67	+1.63	1.65	5.9	10	7	11	13	nw.	U. S. Weather Bureau.
Toms River (1)..... (b).....	Ocean.....	33	16	36.5	+1.8	70	28	17	5	36	6.20	+2.31	2.40	3.5	9	14	6	11	W.	E. G. Bunnell.
Indian Mills.....	Burlington.....	76	7	37.5	+4.6	61	23	16	20	35	4.71	+0.1	1.51	6.0	10	14	6	11	W.	James Armstrong.
Clayton.....	Gloucester.....	126	11	37.2	+3.5	64	28	18	13	30	5.59	+1.83	1.66	4.5	8	18	3	10	W.	Wm. T. Farley.
Tuckerton.....	Ocean.....	23	10	38.1	+4.8	64	28	17	13	33	6.05	+1.74	2.60	1.3	9	10	11	10	nw.	E. R. Austin.
Egg Harbor City.....	Atlantic.....	63	18	38.1	+4.8	66	28	20	20	32	5.47	+1.88	2.23	2.5	7	19	4	8	W.	Charles Sallmann.
Friesburg.....	Salem.....	100	15	38.0	+4.4	65	28	18	13	33	4.25	+0.85	1.20	5.5	9	13	6	12	W.	H. C. Perry.
Vineland.....	Cumberland.....	118	40	37.7	+3.2	65	28	18	13	33	4.29	+0.50	1.50	3.5	6	13	10	8	nw.	Alfred Chalmers.
Canton.....	Salem.....	24	6	38.8	+2.0	65	28	19	5	33	4.08	+0.29	1.33	2.5	7	12	5	14	W.	J. H. Maskell.
Bridgeton.....	Cumberland.....	30	32	38.8	+2.0	65	28	19	5	33	4.08	+0.29	1.33	2.5	7	12	5	14	W.	Henry A. Jorden.
Pleasantville..... (f).....	Atlantic.....	26	10	38.8	+2.0	65	28	19	5	33	4.08	+0.29	1.33	2.5	7	12	5	14	W.	L. Van Gilder.
Woodbine.....	Cape May.....	43	16	38.3	+3.2	62	28	17	20	32	5.29	+1.58	2.80	T.	8	12	11	8	sw.	R. D. Maltby.
Cape May C. H. (g).....	do.....	19	20	41.0	+3.4	64	28	22	20	25	4.96	+1.58	2.89	.....	7	14	8	9	nw.	L. T. Garretson.
District averages.....				37.9	+3.3						4.71	+1.03		4.2	8	12	8	11	W.	
THE SEA COAST.																				
Oceanic..... (a).....	Monmouth.....	16	21	37.8	+2.0	62	28	20	5	30	4.80	+0.82	1.50	5.0	10	16	5	10	nw.	Prof. C. E. Dietz.
Long Branch.....	do.....	30	21	38.0	+2.0	61	28	18	5	22	5.34	+1.78	1.75	4.5	9	13	9	9	nw.	B. B. Bobbitt.
Asbury Park.....	do.....	22	19	38.2	+2.0	65	28	18	5	27	5.31	+1.78	1.75	4.5	9	16	6	9	W.	B. H. Obert.
Atlantic City.....	Atlantic.....	16	32	38.8	+2.4	55	10	21	5	17	7.13	+3.39	3.52	T.	9	9	11	11	nw.	Section Center.
Cape May City.....	Cape May.....	17	14	39.9	+1.9	56	28	23	5	16	4.63	+0.85	2.45	0.5	9	7	41	10	nw.	U. S. Weather Bureau.
District averages.....				38.5	+2.3						5.44	+1.71		3.2	9	12	9	10	nw.	

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

† Not considered in averages.

‡ Published subject to correction.





# Total Monthly Precipitation, December, 1907.



## TOTAL PRECIPITATION FOR DECEMBER, 1907.

Stations.	Day of month.																															Total.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
THE HIGHLANDS & KITTA-TINNY VALLEY.																																	
Layton .....		.25	*	.20					*	2.35					1.00								.70								.23	4.73	
Sussex .....	T.	.15	T.	.20					T.	1.30				.60	T.			T.					.95								.35	3.55	
Culver's Lake .....	.03	.15	.02	.24						2.28	.01			1.20	.31	.03		T.	.02				1.10					T.			.39	.01	5.79
Newton .....																																	
Charlotteburg .....		.20	*	.25					*	1.90		T.			1.40			T.					1.60								.39		5.74
Pompton Plains .....	*	.10	*	.27					*	1.57				*	1.46			T.					1.64								.39		5.74
Boonton .....		.05	*	.35	T.				*	1.66		T.		*	1.11	.03		.02					1.58								.33	.18	5.40
Dover .....		.20	.40	.15					*	1.95				*	1.44								1.64								.33	.24	5.43
Belvidere .....	T.	.09	*	.20					.03	1.44	.07	.02		.95	.35			T.					1.77								.49		6.40
Phillipsburg .....	T.	.05	.07	.13					.03	1.48	.07	.01		.86	.15			.05	T.				1.13						.01		.40	.06	4.74
																						1.03								.41	.07	4.42	
THE RED SAND STONE PLAIN.																																	
Mahwah .....		.15	.05	.21					*	1.28				1.64	*	.05							1.55								.20	.26	5.39
River Vale .....									*	1.55		T.		1.32	.30			T.				1.53						T.			.46		5.51
Paterson .....		.06	.06	.23					.03	.48		T.		1.41	.03			.02	T.			1.32						T.			.61		4.20
Englewood .....		.07	*	.24	.03				*	1.55		T.		*	1.75			.02				1.41									.23	.23	5.53
Little Falls .....		.10	.10	.20					T.	.92		T.		1.25	T.			T.				1.58									.62		4.77
Chatham .....		.05	*	.42					.02	1.11		T.		.45	.28	T.		*	.08			1.77								.20	.40	5.32	
Newark .....	.02	.12	.20	.21					.02	.51		T.		1.33	.02			.04				1.86								.56		4.87	
New York, N. Y. ....	T.	.03	.16	.07					T.	.75		T.		1.35	.12			.02	T.			1.20						T.		.55		3.91	
Jersey City .....	T.	.06	.10	.18	T.				T.	.67		.01		1.15	.08			.01	T.			1.29						T.		.57	T.	4.43	
Bayonne .....		.05	.05	.10	T.				T.	.78				1.29	.10			.04	T.			1.55	T.					T.		.54	.10	4.34	
Bergen Point .....		.10	.15	.10					T.	.78				1.29	.10			.04	T.			1.60						T.		.54	.10	4.80	
Elizabeth .....	*	.40	*	.30					.04	.68		T.		1.15	.07	T.		.03				1.85								.65		5.16	
Plainfield .....	*	.05	.06	.14					T.	.96				1.20	T.	.03		.03				1.61								.62	T.	4.45	
Somerville .....			.03	.30					T.	.96				1.20	T.	.03		.03				1.60								.45	.15	4.75	
Flemington .....		.05	T.	.40					.05	.95				.96	.27			.04	.03			1.45						T.		.50	.14	4.79	
New Brunswick .....		.10	.20	.20					T.	.85				1.22	T.			.10				1.65								.48	.20	5.00	
College Farm .....		.07	T.	.15						.29				.65	.22			T.				.85								.24		4.27	
Runyon .....																																	
Lambertville .....	.15		.02	.29						.86				1.06	T.			.05				1.46									.65		4.64
THE SOUTHERN INTERIOR.																																	
Hightstown .....		.10	.20							.55				1.25				T.				1.09									.65		3.81
Trenton .....	.54	T.	T.	.28					T.	.74				1.20	T.			T.				1.55									.50		4.81
Imlaystown .....		.08	.16							.64				*	1.38			.03				1.22									.53		4.04
Burlington .....	.12		.17						.17	.46				1.43	.06			.06				1.46									.54		4.47
Beverly .....	T.	.03	.18	.08					T.	.54	T.			1.63	.01			.04				1.53	T.								.54		4.58
Rancocas .....	T.	.12	T.	.30					T.	.70				1.00	.10			.05	T.			1.12									.55		3.94
Brown's Mills .....		.02	*	.22						.25	.44			.40	1.60			T.				2.00								.42	.49	5.84	
Moorestown .....	T.	.03	.05	.15	T.				T.	.60	.02			1.53	.17	T.		.02	.03			1.06								.59		4.25	
Philadelphia, Pa. ....	.03	*	.16	.04					.02	.52	T.			1.65	.02			.03	T.			1.62						T.		.58		4.67	
Toms River .....	*	.03	*	.30					1.00					*	2.40			T.				1.30								1.15		6.20	
Indian Mills .....		.07	*	.28					T.	.58				1.51	.08			T.	.02			1.25								.78	.14	4.71	
Clayton .....	.05	.15	*	.40					T.	1.07				1.53				T.	T.			1.66								*	.88	5.59	
Tuckerton .....	.12	.15	*	.34					.12	.23				2.60	.12			T.				1.13								.96		6.65	
Egg Harbor City .....	*	.25	*						*	.64				2.23								1.25								1.10		5.47	
Friesburg .....		.02	*	.40						.61				1.20	.02	T.		T.	T.			1.11								.77	.12	4.25	
Vineland .....	T.		.05	.20					T.	.66				1.01				T.	T.			1.59								.78		4.29	
Canton .....			*	.20						.55	.20			1.18				T.				1.00								.82		3.75	
Bridgeton .....	.10		*	.18						.60				1.10								1.33								.77		4.08	
Pleasantville .....																																	
Woodbine .....	.01		.03	.05						.35				2.50				.03				1.34								1.00	.01	5.29	
Cape May C. H. ....	T.		T.	.26					.02	.34				2.89								.81								.55	.09	4.96	
THE SEA COAST.																																	
Oceanic .....		.06	*	.18						.75				1.50	.36			.02				1.10									.69	.14	4.80
Long Branch .....		.09	.05	.30						.90				2.00	.05			.06				1.05								.74	.10	5.34	
Asbury Park .....	.04	.10	.05	.30					T.	.80				1.75	.25			T.				1.08								.88	.06	5.31	
Atlantic City .....	.06	.01	.44	.02					.02	1.61				3.52	T.			T.	T.			.89								.56		7.13	
Cape May City .....	.10		.30	T.	T.				.01	.30				2.45	.02	.03		T.				.75								.67		4.63	

|| Precipitation measured at 8 a. m., 75th meridian time.

\* Precipitation included in that of following day.

T. Indicates amount too small to measure.

† Incomplete.

‡ Published subject to correction.



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UNNS  
U. S. DEPARTMENT OF AGRICULTURE

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ANNUAL SUMMARY, 1907

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF

WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.  
WEATHER BUREAU OFFICE

JANUARY 21, 1908

# Annual Mean Isotherms and Prevailing Direction of Wind, 1907.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

Vol. XX.

ATLANTIC CITY, N. J.

YEAR, 1907.

## GENERAL SUMMARY.

The temperature during 1907 averaged decidedly below the normal, the annual mean being the lowest reported in a period of 21 years, with two exceptions, namely, 1888 and 1904. The summer was free from periods of excessive heat. The total precipitation was above the normal, and has not been appreciably exceeded since 1887, except during the years 1889, 1902 and 1903.

The annual mean temperature ranged from  $46^{\circ}$ , in the northern part of Sussex County, to  $53^{\circ}$ , in the western part of Cumberland County, and was below the normal thruout the State. The most marked departures from the normal, averaging about  $-2.5^{\circ}$ , were reported from stations in Atlantic, Bergen, Cape May, Cumberland, Mercer, Middlesex, Monmouth and Morris counties. During February, April, May, June, August and October, the deficiencies in mean temperature were very decided, the average deficiency for the period extending from April 1 to the middle of June having amounted to about  $6^{\circ}$  per day. The latter-named period of unseasonably cold weather is without parallel within the range of authentic records. The only months during the year with the mean temperatures exceeding the normal were January, March, September and December, the excess of December being the most pronounced. The annual extremes of temperature were abnormal, the annual maximum being as low as any previously reported, and the annual minimum the lowest, with one exception. The last killing frosts of spring, occurring about the middle of May, were much later than usual. The growing season, altho exceptionally short, resulted more favorably than was at first indicated.

The precipitation during the year ranged from about 45 inches, in the northern part of Sussex County, to 60 inches, in the southeastern part of Essex County, and was quite well distributed. As compared with the normal, there was a marked excess over parts of Atlantic, Burlington, Cape May, Essex, Gloucester, Hunterdon, Morris and Salem counties, and a deficiency of several inches over Bergen and Union counties. The departures from the normal elsewhere were unimportant. With respect to the precipitation, prominent features of the year were the heavy rains of May, September and November, the exceptionally light rainfall of July, and the unusually large annual amounts of snow. In several of the northern counties the annual snowfall exceeded 70 inches.

There was for the year as a whole about the usual amount of sunshine.

## THE WEATHER BY MONTHS.

**JANUARY.**—The month averaged warmer than usual, the first fifteen days being exceptionally mild, with unusually high maximum temperatures on the 7th. The second half of the month was cold, particularly the period extending from the 23d to the 31st. Minimum temperatures of zero, and below, occurred frequently during the third decade. Altho the greater part of the

month was stormy, the precipitation was slightly below the average. After the middle of the month the precipitation occurred mostly as snow, and at the close the ground was covered with depths varying from trace to about 5 inches. The sunshine was much below the normal.

**FEBRUARY.**—The month was exceptionally cold, the deficiency in daily mean temperature averaging about  $6^{\circ}$  per day. The mean temperature was one of the lowest reported for February in a period of 21 years. The minimum temperature record for February was lowered in the first decade. Over the greater portion of the extreme northern counties the minimum temperatures were below zero on nine days. The precipitation occurred mostly as snow, and was below the normal. Snow covered the ground practically the entire month. The sunshine was slightly above the normal.

**MARCH.**—During the first twelve days of the month the temperature was almost steadily below the normal, while the rest of the month averaged much milder than usual, the weather during the greater part of the third decade being phenomenally mild. Abnormally high maximum temperatures, ranging from  $72^{\circ}$  to  $88^{\circ}$ , occurred on the 23d and 29th. There was a marked deficiency in the precipitation, altho the snowfall was above the average. The precipitation was well distributed thruout the district. The rivers were remarkably free from ice during the month. At the close of the month the season was more advanced than usual, the last decade having been very favorable for outdoor work.

**APRIL.**—The mean temperature was the lowest reported for April in a period of 31 years, the departure from the normal being  $-4.5^{\circ}$ . The mean temperature was only  $4^{\circ}$  higher than the mean for March, 1907. Freezing temperature at night, with destructive frosts, occurred with great frequency during the first two decades. The mean temperature during the third decade averaged nearly the normal. The precipitation for the district as a whole exceeded the normal. More than the usual amount of snow fell, but the depths on the ground disappeared rapidly. The duration of sunshine was about normal. The month was unfavorable for the usual outdoor work of the season.

**MAY.**—The temperature was almost steadily below the normal thruout the month, the average deficiency in the daily mean being nearly  $5.5^{\circ}$ . The monthly mean temperature for the district was the lowest reported for May in a period of 25 years. The nights were unseasonably cool thruout the month, destructive frosts being reported over large areas on the 5th, 12th and 22d. Two moderately warm periods of brief duration occurred during the second decade. The precipitation exceeded the normal, generally, large amounts being received over most of the southern counties. The prevailing weather conditions were detrimental to agricultural interests. At the close of the month the season was exceptionally backward. The sunshine was below the normal.

**JUNE.**—The abnormally cool weather of April and May continued thru the first part of June, the daily mean temperatures from the 1st to the 14th averaging about  $8^{\circ}$  below the normal. The mean temperature during the latter part of the month was nearly normal. There was, however, a large temperature deficiency for the month as a whole, the low mean for the State being unprecedented for June, with one exception. Exceptionally low maximum temperatures occurred on several days, and the night temperatures were unseasonably low during practically the entire month. Light frost was reported in exposed localities near the middle of the month. The precipitation was nearly normal in the northern counties, and above the normal in the south. The month was for the most part free from local storms of severity. A severe northeast storm prevailed on the coast on the 1st–2d. Nearly the normal amount of sunshine was received.

**JULY.**—This was the fourth consecutive month with the temperature below the normal, altho the deficiency was much

less pronounced than during the three preceding months. The monthly extremes of temperature were well within the records for July, and there was a marked absence of periods of extreme heat. The average precipitation was the least on record for July in a period of 21 years, with one exception. The precipitation during the month occurred mostly in the form of local showers and thunderstorms and the usual irregular geographical distribution resulted. Local storms of severity occurred frequently. At the close of the month a severe drought existed over a large area in the north. The sunshine was about the normal.

**AUGUST.**—This was the fifth consecutive month with the mean temperature below the normal. The precipitation, generally, was deficient. The percentage of sunshine was high. The temperature averaged nearly normal during the first and second decades, but the third decade was abnormally cool. The geographical distribution of the precipitation was very irregular. Limited portions of a few southern counties received excessive amounts of rain, while over much the greater portion of the State a marked deficiency occurred. Severe drought prevailed over most of the northern counties until about the middle of the third decade. The month was comparatively free from local storms of severity.

**SEPTEMBER.**—The month was marked by excessive cloudiness and generally heavy precipitation. The average precipitation was the greatest on record for September in a period of 21 years, with one exception. The frequency of rain and the numerous excessive 24-hour falls were noteworthy features. The mean temperature was slightly above the normal, summer temperatures prevailing the greater part of the time from the 1st to the 24th. Local storms of severity occurred on the 4th, 11th and 21st. Over a large part of the district the duration of sunshine was less than 50 per cent of the possible.

**OCTOBER.**—Clear and cool weather prevailed during the month, the mean temperature being the lowest reported for October in a period of 21 years, with two exceptions. The precipitation averaged slightly above the normal and occurred mostly in the first and third decades. The temperature was almost steadily below the normal throughout the month, the deficiency averaging about 4° per day. Killing frosts occurred often. The precipitation was infrequent and unusually light from the 1st to the 26th, except on the 8th. More than 65 per cent of the monthly rainfall occurred on three days at the close of the month. The month was remarkably free from cloudiness, the percentage of sunshine being the highest reported for October in a period of 11 years.

**NOVEMBER.**—The departures of mean temperature from the normal were, as a rule, slight. The warmest weather of the month occurred during the first decade, and the coldest about the middle of the second decade. There was much cloudy and rainy weather, the average precipitation being decidedly above the normal and the greatest reported for November in a period of about 10 years. There were only two well-defined periods of fair, or generally fair, weather during the month. The sunshine was below the normal, the duration being less than 50 per cent of the possible. High winds occurred frequently.

**DECEMBER.**—The month, as a whole, was mild and generally free from sudden and decided changes of temperature. The mean temperature averaged about 3° above the normal, the mean of the last decade being exceptionally high. The first decade was colder than usual. The temperature during the second decade was nearly normal and remarkably uniform for the season. The total precipitation ranged from about 3.50 to slightly more than 7 inches, and was quite evenly distributed. The normal was exceeded generally, the excess being most marked over the counties bordering on the ocean. The average snowfall, unmelted, was about 6 inches, although practically no snow occurred on the southeastern coast. There was nearly the usual amount of sunshine.

## CLIMATOLOGICAL SUMMARY FOR 1907.

### TEMPERATURE.

The annual mean, 50.4°, is 1.6° below the normal. The annual means for the various districts, with the departures from the normal, were as follows: Highlands and Kittatinny Valley, 47.7°, —1.5°; Red Sand Stone Plain, 50.3°, —1.5°; Southern Interior, 51.5°, —1.7°; Sea Coast, 51.0°, —1.8°. The highest annual mean, 53.0°, occurred at Bridgeton, and the lowest, 45.8°, at Layton. The maximum temperature, 96°, occurred at Elizabeth, on June 26, at Brown's Mills, on July 17, and at Friesburg, on August 8, and the minimum, —22°, at Charlotteburg, and Layton, on February 7. The annual range within the State was 118°. The greatest local annual range was 117°, at Layton, and the least, 83°, at Cape May City.

### PRECIPITATION.

The annual average, 51.65 inches, is 4.10 inches above the normal. The averages for the various districts, with the departures from the normal, were as follows: Highlands and Kittatinny Valley, 52.47 inches, +3.06 inches; Red Sand Stone Plain, 50.82 inches, +1.85 inches; Southern Interior, 52.12 inches, +5.62 inches; Sea Coast, 51.34 inches, +6.07 inches. The greatest annual amount, 60.06 inches, occurred at Newark, and the least, 44.49 inches, at Layton. The greatest local monthly amount was 12.95 inches, at Boonton, in September, and the least, 0.95 of an inch, at Newark, in July. The greatest 24-hour amount was 4.47 inches, at Charlotteburg, on September 22d-23d. The average number of days with measurable amounts of precipitation was 128. The greatest annual amount of snow, unmelted, was 75 inches, at Pompton Plains. The average annual amounts for the various districts were as follows: Highlands and Kittatinny Valley, 66 inches; Red Sand Stone Plain, 63 inches; Southern Interior, 42 inches; Sea Coast, 40 inches.

### SUNSHINE AND CLOUDINESS.

The average number of clear days was 141; partly cloudy, 99; cloudy, 125.

### WIND.

The prevailing direction was northwest. The maximum velocity, 61 miles per hour, from the west, occurred at Jersey City, on January 20.

## KILLING FROSTS.

Stations.	Last in spring.	First in autumn.	Stations.	Last in spring.	First in autumn.
Asbury Park.....	Apr. 21	Oct. 22	Jersey City.....	May 12	Oct. 2
Atlantic City.....	Apr. 21	Nov. 14	Lakewood.....	May 12	Oct. 1
Bayonne.....	May 12	Oct. 21	Lambertville.....	May 12	Oct. 1
Belvidere.....	May 12	Oct. 19	Layton.....	May 30	Oct. 1
Bergen Point.....	May 12	Oct. 22	Long Branch.....	May 12	Oct. 1
Beverly.....	May 12	Oct. 22	Moorestown.....	May 12	Oct. 1
Bridgeton.....	May 12	Oct. 22	Newark.....	May 12	Oct. 1
Brown's Mills.....	May 12	Oct. 10	New Brunswick.....	May 12	Oct. 1
Burlington.....	May 12	Oct. 22	Newton.....	May 22	Oct. 1
Canton.....	May 22	Oct. 12	Oceanic.....	Apr. 22	Oct. 1
Cape May City.....	May 12	Oct. 31	Paterson.....	May 12	Oct. 1
Cape May C. H.....	May 12	Oct. 22	Phillipsburg.....	May 12	Oct. 1
Charlotteburg.....	May 12	Sept. 27	Plainfield.....	May 12	Oct. 1
Clayton.....	May 12	Oct. 22	Rancocas.....	May 22	Oct. 1
College Farm.....	May 12	Oct. 10	River Vale.....	May 29	Sept. 1
Culver's Lake.....	May 22	Oct. 9	Rumson.....	May 12	Oct. 1
Dover.....	May 12	Oct. 9	Somerville.....	May 22	Oct. 1
Egg Harbor City.....	May 12	Oct. 22	South Orange.....	May 12	Oct. 1
Elizabeth.....	May 12	Oct. 21	Sussex.....	May 12	Oct. 1
Englewood.....	May 12	Oct. 21	Toms River.....	May 12	Oct. 1
Flemington.....	May 12	Oct. 16	Trenton.....	May 12	Oct. 1
Friesburg.....	May 22	Oct. 15	Tuckerton.....	May 12	Oct. 1
Hightstown.....	May 12	Oct. 15	Vineland.....	May 22	Oct. 1
Imlaystown.....	May 12	Oct. 22	Woodbine.....	May 12	Oct. 1
Indian Mills.....	May 12	Oct. 10			



## Climatological Data for the Year 1907

Stations.	Counties.	Elevation, feet.	Temperature (degrees Fahrenheit).						Precipitation (inches).						Number rainy days.	Sky.				Prevailing direction of wind.
			Length of record, years.	Annual mean.	Highest.	Date.	Lowest.	Date.	Length of record, years.	Total for the year.	Greatest monthly.	Month.	Least monthly.	Month.		Total snowfall.	Number clear days.	Number partly cloudy days.	Number cloudy days.	
THE HIGHLANDS & KITTATINNY VAL.																				
Layton	Sussex	550	8	45.8	95	Aug. 12	-22	Feb. 7	8	44.49	8.14	Sept.	1.51	July	68.6	111				n.
Sussex	do	412	13	47.8	92	Aug. 12	-9	Feb. 24	13	45.56	9.51	Sept.	1.86	Aug.	68.5	105				w.
Chilver's Lake	do	848							6	52.65	10.67	Sept.	2.09	Feb.	69.6	135	175	96	94	nw.
Newton	do	678	27		91	*July 18	-12	Feb. 24	27				1.26	July						w.
Charlotteburg	Passaic	719	15	47.0	94	Aug. 12	-22	Feb. 7	15	56.19	12.54	Sept.	1.35	July		105				w.
Pompton Plains	Morris	105							5	58.27	12.37	Sept.	1.07	July	75.0	139				nw.
Boonton	do	413							10	59.30	12.05	Sept.	2.15	Feb.	58.2	144				nw.
Dover	do	575	23	46.8	94	Aug. 12	-6	Feb. 23	23	58.65	10.38	Sept.	2.71	July	68.1	119				
Belvidere	Warren	289	17	49.3	93	June 22	-9	Feb. 7	17	50.89	8.42	Sept.	2.51	May	59.3	110				
Phillipsburg	do	196	5	49.7	94	Aug. 12	-2	*Jan. 24	5	46.23	8.51	Sept.	0.97	July	62.2	151	183	2	109	nw.
THE RED SAND STONE PLAIN.																				
Mahwah	Bergen								5	54.69	10.55	Sept.	1.86	Aug.	71.1	131				nw.
River Vale	do	70	16		93	*July 18	-21	Feb. 7	16		8.06	Sept.	1.45	July						nw.
Paterson	Passaic	110	37	51.2	95	*Aug. 8	-2	*Jan. 24	29	52.20	10.33	Sept.	1.86	July	59.9	130				nw.
Englewood	Bergen	135	21	50.0	92	Aug. 8	-3	Jan. 24	21	49.20	8.40	Sept.	1.35	July	67.3	140	129	82	154	nw.
Little Falls	Passaic	175							5	54.72	9.48	Sept.	1.99	July	59.4	140				w.
South Orange	Essex	200	38	49.2	94	*June 25	-1	Feb. 12	38	49.90	8.92	Sept.	1.30	July	62.0	102	135	105	125	w.
Chatham	Morris	234							5	53.43	8.52	Sept.	1.43	July		136				w.
Newark	Essex	140	65	50.6	94	Aug. 12	-2	Feb. 12	65	60.06	10.17	Sept.	0.95	July	72.8	135				w.
New York, N. Y.	New York	314	37	51.2	91	Aug. 8	0	Jan. 24	37	45.28	8.00	Sept.	1.18	July	56.3	140		130	124	nw.
Jersey City	Hudson	15	2	51.5	94	Aug. 8	0	Feb. 12	2	48.07	7.37	Sept.	1.22	July	62.5	140	111	104	150	nw.
Bayonne	do	50	17	50.2	94	Aug. 8	-1	Feb. 7	17	46.72	7.44	Sept.	1.58	July	57.4	142	140	94	131	w.
Bergen Point	do	37	10	50.3	91	*July 17	0	Feb. 12	10	50.89	8.02	Sept.	1.69	July	65.4	130				nw.
Elizabeth	Union	33	28	51.4	96	*June 26	0	Feb. 12	28	45.63	6.18	Sept.	1.29	July		119				
Plainfield	do	100	20	49.5	92	*June 24	-5	Feb. 7	20	47.43	7.44	Sept.	2.26	July	61.4	137	129	137	99	sw.
Somerville	Somerset	76	25	50.0	95	Aug. 8	-10	Feb. 7	27	50.62	7.88	Sept.	2.68	Feb.	62.5	136	141	87	137	sw.
Flemington	Hunterdon	187	10	50.0	94	July 10	-9	Feb. 7	10	54.78	11.24	Sept.	2.72	Feb.	56.4	139	186	77	102	w.
New Brunswick	Middlesex	61	54	49.4	94	Aug. 8	-5	Feb. 7	54	50.88	6.64	Sept.	1.79	Aug.	70.0	102				w.
College Farm	do	100	12	49.5	93	*July 18	-5	Feb. 7	12	48.10	6.85	Sept.	2.22	Apr.		112				n.
Runyon	do	18							1		7.02	Sept.	3.00	Aug.						
Lambertville	Hunterdon	95	21	50.5	92	*July 18	-2	*Feb. 7	21	52.24	7.84	Sept.	2.86	Feb.	61.4	118				nw.
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	16	50.0	92	*July 17	-11	Feb. 7	16	47.91	6.48	Sept.	1.92	Feb.	5.03	117	150	87	128	nw.
Trenton	do	60	38	52.0	92	June 18	-2	Feb. 12	38	51.62	6.81	Sept.	2.53	Feb.	3.62	100				nw.
Imlaystown	Monmouth	106	21	50.5	94	*June 22	-10	Feb. 7	21	48.37	7.29	Sept.	2.30	Feb.	4.58	124				
Lakewood	do	54	7						3				2.76	Feb.						
Burlington	Burlington	12							15	53.70	6.89	Sept.	2.19	Feb.						w.
Beverly	do	30	23	51.0	93	*June 26	-1	*Feb. 7	23	53.53	6.01	May	2.98	Feb.	56.5	135				w.
Rancocas	do	68			94	*June 25	1	*Jan. 24	22	57.64	7.61	Aug.	2.83	Feb.	51.5	127	141	83	141	nw.
Brown's Mills	do	71	1		96	July 17			1		8.76	Sept.								
Moorestown	do	71	43	50.6	91	June 22	0	*Jan. 24	43	55.62	6.85	June	2.66	Mar.	54.7	154	146	89	130	nw.
Philadelphia, Pa.	Philadelphia	117	37	53.1	93	July 25	-6	Jan. 24	37	48.74	5.99	Sept.	2.65	Jan.	44.9	147	101	109	155	nw.
Toms River	Ocean	33	16						16		9.17	Sept.	2.30	Mar.	55.2					w.
Indian Mills	Burlington	76	7	51.5	94	*June 25	2	*Jan. 24	7	58.05	10.51	Sept.	2.93	Mar.	51.7	127				nw.
Clayton	Gloucester	126	11	51.3	93	Aug. 8	-1	Feb. 7	11	53.90	7.62	Sept.	2.19	Feb.	35.3	111				nw.
Tuckerton	Ocean	23	10	50.8	92	*July 8	1	*Feb. 7	10	54.21	7.58	Aug.	1.13	July	37.4	124				sw.
Egg Harbor City	Atlantic	63							18											
Friesburg	Salem	100	10	51.5	96	Aug. 8	-5	Feb. 7	15	47.92	6.40	Sept.	2.24	Feb.	32.6	144				w.
Vineland	Cumberland	118	40	51.8	95	Aug. 8	0	Feb. 7	40	52.51	8.69	Sept.	1.78	July	33.1	138				nw.
Canton	Salem	24							6	51.15	7.65	Sept.	2.35	Aug.	24.7	106				
Bridgeton	Cumberland	30	32	53.0	95	*June 25	2	Feb. 7	32	50.19	8.36	Sept.	1.82	Feb.	34.1	117	183	60	122	nw.
Pleasantville	Atlantic	26							10	45.54	7.15	May	1.73	July		131				
Woodbine	Cape May	43	16	51.8	93	Aug. 8	1	*Jan. 24	16	58.42	8.67	Apr.	1.97	Jan.	29.4	109				w.
Cape May C. H.	do	19	20	52.6	90	July 11	2	Jan. 24	20	49.19	6.78	May	1.93	Jan.	43.6	118	132	121	112	nw.
THE SEA COAST.																				
Oceanic	Monmouth	16	21	51.0	92	July 17	0	Feb. 12	21	51.46	8.48	Sept.	2.58	Feb.	49.2	149				nw.
Long Branch	do	30							1											
Asbury Park	do	22	19	50.3	88	*July 25	0	Feb. 12	19	54.70	6.97	Sept.	2.64	Feb.	54.1	136	157	88	120	w.
Atlantic City	Atlantic	16	34	51.0	91	July 8	4	Jan. 24	34	48.54	7.13	Dec.	1.57	July	26.0	137	102	110	153	sw.
Cape May City	Cape May	17	23	51.6	88	*July 8	5	Jan. 24	23	50.68	7.73	May	2.55	Feb.	28.8	141	118	152	95	s.

\* Occurred on more than one date.

† And March.

Monthly and Annual mean temperatures for the year 1907, with departures from the normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.
<b>THE HIGHLANDS &amp; KIT-TATINNY VALLEY.</b>																										
Layton .....	25.6	+2.1	17.0	-4.9	36.4	+0.9	42.0	-4.4	52.9	-5.8	62.3	-3.3	69.2	-2.1	65.8	-2.2	62.8	-0.5	46.1	-4.3	38.2	-1.4	31.0	+5.6	45.8	-1.7
Sussex .....	27.0	+1.0	19.2	-6.2	38.8	+2.3	43.4	-5.5	54.4	-6.2	63.8	-3.6	71.2	-1.1	68.2	-1.6	64.8	+0.9	48.2	-4.5	40.9	-0.2	33.2	+3.7	47.8	-1.8
Newton .....	27.2	+1.6	19.3	-7.8	38.3	+3.3	43.5	-4.7	53.9	-5.8	63.1	-4.6	71.2	-1.5	68.2	-1.6	64.8	+0.9	48.2	-4.5	40.9	-0.2	33.2	+3.7	47.8	-1.8
Charlotteburg .....	29.4	+2.7	19.0	-5.4	38.2	+2.3	42.3	-4.4	53.0	-4.7	61.4	-3.8	70.0	-0.1	67.4	-0.4	63.4	+1.4	47.2	-3.8	40.0	0.0	33.0	+3.1	47.0	-1.2
Dover .....	26.8	0.0	19.2	-7.8	37.4	+2.3	41.1	-6.2	53.6	-5.2	63.0	-4.4	71.4	-0.3	67.5	-2.1	63.7	+0.9	46.7	-4.4	39.0	-1.6	31.9	+1.3	46.8	-2.3
Belvidere ..	28.4	+1.7	21.2	-6.1	40.4	+2.8	45.3	-4.2	55.8	-4.9	65.2	-4.3	73.9	+0.6	69.6	-1.9	65.5	0.0	49.7	-3.6	42.0	+1.3	34.2	+3.6	49.3	-1.2
Phillipsburg .....	28.9	+2.3	21.8	-5.0	40.6	+3.7	45.2	-4.2	55.9	-5.1	65.6	-4.5	74.4	0.0	70.4	-1.2	66.6	+1.6	50.0	-2.7	42.0	+0.4	34.5	+3.2	49.7	-1.0
<b>THE RED SAND STONE PLAIN.</b>																										
River Vale .....	28.3	+0.6	17.8	-8.9	36.2	-1.3	42.8	-5.1	52.6	-6.8	61.6	-6.2	70.4	-2.1	67.2	-3.3	64.0	+0.3	46.4	-6.3	40.6	-0.5	33.0	+3.4	51.2	-0.9
Paterson .....	32.2	+3.1	24.4	-5.8	41.8	+3.1	46.8	-3.9	57.0	-4.7	66.5	-3.8	74.8	+0.3	71.4	-0.8	67.3	+0.9	51.4	-3.1	43.8	+0.6	36.4	+3.4	51.2	-0.9
Englewood .....	30.0	+1.8	22.4	-4.9	39.3	+1.2	44.4	-3.9	55.6	-4.9	65.2	-2.7	73.4	+0.2	71.3	-0.6	67.0	+2.0	51.2	-2.5	45.0	-1.7	35.8	+2.5	50.0	-0.8
South Orange .....	29.9	+1.4	21.9	-7.9	40.0	+3.6	44.6	-3.5	54.4	-6.0	64.6	-4.6	72.6	-0.4	69.6	-1.5	65.6	+1.3	49.0	-3.8	42.2	+0.3	36.6	+3.4	49.2	-1.4
Newark .....	31.1	+2.2	23.0	-5.6	40.6	+2.2	45.4	-4.2	55.8	-5.3	65.5	-4.3	75.4	+1.0	71.5	-1.0	67.4	+1.5	51.2	-2.9	43.4	0.0	36.4	+2.8	50.6	-1.2
New York, N. Y. ....	32.2	+2.0	24.4	-6.3	40.8	+3.3	45.0	-3.1	55.3	-4.0	66.2	-2.3	74.8	+1.3	72.0	-0.2	67.8	+1.3	52.5	-3.1	45.2	+1.2	37.8	+3.4	51.2	-0.5
Jersey City .....	32.1	+2.0	24.5	-6.3	41.0	+3.4	46.2	-3.0	56.4	-4.0	66.5	-2.3	75.8	+1.3	72.4	-0.2	68.6	+1.3	52.2	-3.1	44.8	+1.2	37.1	+3.1	51.5	-0.5
Bayonne .....	31.1	+1.5	22.8	-6.6	39.6	+0.4	44.9	-5.0	55.0	-6.3	64.9	-5.1	74.4	-0.5	71.0	-2.7	67.6	-0.2	51.2	-4.8	43.6	-0.1	36.4	+2.7	50.2	-2.2
Bergen Point .....	31.2	+0.9	23.2	-5.5	40.0	0.0	44.5	-4.9	55.2	-5.5	65.4	-3.6	73.8	-0.7	70.9	-1.3	67.8	+1.3	51.2	-4.9	43.8	+0.3	36.6	+2.2	50.3	-1.6
Elizabeth .....	32.6	+2.8	24.5	-6.0	41.0	+2.9	47.0	-3.7	56.8	-5.5	67.0	-4.1	76.0	+0.5	72.2	-1.4	67.8	+0.9	51.2	-3.6	43.9	+0.5	36.6	+3.3	51.4	-1.1
Plainfield .....	30.4	+1.7	22.8	-5.7	40.0	+1.4	44.9	-4.5	54.8	-5.9	64.8	-4.5	73.0	-1.5	70.0	-2.8	66.6	+0.8	49.2	-4.8	42.1	+0.1	35.0	+2.6	49.5	-1.9
Somerville .....	30.4	+2.7	21.9	-6.7	40.6	+2.4	45.8	-3.3	55.7	-5.2	65.1	-4.7	74.2	0.0	71.2	-1.4	67.4	+1.2	49.6	-4.3	42.6	+0.3	35.1	+2.8	50.0	-1.4
Flemington .....	30.3	+2.1	21.6	-5.8	40.4	+0.1	45.8	-4.0	55.6	-5.9	64.8	-5.0	74.1	-1.1	70.5	-2.1	67.4	+1.0	51.1	-4.7	43.0	+0.7	35.2	+4.2	50.0	-1.7
New Brunswick .....	30.7	+0.2	21.0	-10.7	39.6	+1.5	44.3	-5.5	54.8	-5.8	64.4	-5.2	73.0	-1.3	70.4	-2.1	67.0	+1.1	49.5	-5.3	42.2	-1.5	35.4	+2.2	49.4	-2.7
College Farm .....	30.5	+0.8	21.8	-5.6	40.4	-0.1	45.0	-5.0	55.0	-6.9	64.2	-4.8	73.0	-1.9	70.2	-2.2	66.8	+0.5	49.6	-5.8	42.1	-1.5	35.2	+3.2	49.5	-2.5
Lambertville .....	31.4	+2.1	23.4	-6.9	42.0	+3.3	46.6	-3.8	56.4	-5.5	65.6	-4.8	74.0	-0.5	70.4	-2.2	67.2	+1.3	50.0	-4.0	42.8	0.0	36.0	+2.8	50.5	-1.5
<b>THE SOUTHERN INTERIOR.</b>																										
Hightstown .....	31.0	+1.8	21.7	-7.0	40.4	-0.2	45.2	-5.2	55.2	-6.9	64.2	-5.7	74.0	-1.0	70.4	-2.2	67.2	+0.5	50.4	-4.5	43.3	-0.3	36.6	+3.6	50.0	-2.3
Trenton .....	34.0	+1.3	26.6	-5.1	43.8	+1.4	47.4	-5.1	56.4	-6.7	65.8	-5.8	74.0	-3.1	70.9	-3.9	67.4	+1.0	52.4	-5.1	45.8	-0.6	39.2	+2.1	52.0	-2.6
Imlaystown .....	31.8	+0.2	23.4	-7.7	41.2	-1.6	45.4	-5.2	55.8	-6.7	65.6	-5.4	74.2	-1.0	71.2	-2.1	67.4	+0.8	50.8	-4.3	42.8	-1.7	36.6	+1.8	50.5	-2.5
Lakewood .....	34.0	+2.9	26.4	-3.0	43.1	-1.8	45.6	-4.2	55.3	-6.3	65.0	-5.0	74.2	-1.1	71.4	-2.0	67.8	+0.8	50.6	-4.1	43.6	-0.4	36.8	+2.7	51.0	-1.8
Beverly .....	31.7	+0.9	24.2	-6.7	42.4	+2.5	47.0	-4.1	56.9	-5.4	65.7	-5.0	74.2	-1.1	71.4	-2.0	67.8	+0.8	50.6	-4.1	43.6	-0.4	36.8	+2.7	51.0	-1.8
Brown's Mills .....	32.6	+2.7	24.1	-6.8	42.0	+3.7	46.0	-3.9	55.8	-5.2	64.8	-5.6	73.3	-1.6	69.8	-2.8	67.4	+1.6	50.8	-3.4	43.8	+1.0	37.2	+4.0	50.6	-1.0
Moorestown .....	34.2	+2.4	27.0	-5.8	44.1	+4.1	47.4	-3.4	57.6	-4.6	66.8	-4.4	76.9	+1.1	73.4	-0.4	69.6	+2.2	54.1	-2.2	46.4	+1.5	39.3	+3.6	53.1	-0.0
Philadelphia, Pa. ....	34.0	+3.1	24.1	-5.9	40.6	+1.1	44.6	-4.3	55.6	-4.6	65.0	-3.9	74.2	-1.5	71.0	-1.6	68.2	+1.3	50.8	-5.2	43.9	+0.7	37.5	+4.6	51.5	-1.1
Toms River .....	34.0	+2.6	26.5	-3.4	43.3	+0.5	46.8	-4.4	57.0	-6.0	65.2	-3.9	74.2	-1.5	71.0	-1.6	68.2	+1.3	50.8	-5.2	43.9	+0.7	37.5	+4.6	51.5	-1.1
Indian Mills .....	34.0	+2.6	26.5	-3.4	43.3	+0.5	46.8	-4.4	57.0	-6.0	65.2	-3.9	74.2	-1.5	71.0	-1.6	68.2	+1.3	50.8	-5.2	43.9	+0.7	37.5	+4.6	51.5	-1.1
Clayton .....	33.4	+2.1	25.6	-3.4	43.6	+1.5	46.2	-4.0	56.4	-5.5	64.6	-5.1	74.0	-1.4	71.0	-2.4	68.2	+1.0	51.1	-5.9	44.2	+0.3	37.2	+3.5	51.3	-1.1
Tuckerton .....	35.1	+4.5	26.2	-2.8	41.8	-0.9	44.2	-4.1	54.5	-5.6	63.6	-5.2	73.8	-1.0	70.8	-2.0	67.6	+1.4	49.8	-6.4	43.9	-0.1	38.1	+4.8	50.8	-1.1
Friesburg .....	34.0	+1.6	25.8	-3.8	43.8	+1.5	46.3	-3.8	56.4	-5.6	64.5	-5.5	74.2	-1.7	71.2	-2.4	68.4	+1.0	50.8	-6.2	44.2	+0.1	38.0	+4.4	51.5	-1.1
Vineland .....	34.0	+2.2	26.8	-6.0	44.0	+3.9	46.4	-4.2	56.9	-5.3	65.2	-6.8	75.0	-1.5	71.4	-2.4	68.8	+1.9	51.2	-4.3	44.5	+0.6	37.7	+3.2	51.8	-1.1
Bridgeton .....	35.2	+1.2	27.5	-6.7	45.0	+2.6	47.7	-5.0	58.6	-6.0	66.9	-6.4	76.0	-1.2	73.2	-2.4	69.9	+1.1	52.3	-4.7	45.4	-0.5	38.5	+2.0	53.0	-2.2
Woodbine .....	35.6	+3.8	27.3	-3.5	44.2	+3.0	45.6	-4.3	55.8	-4.9	64.8	-4.0	73.8	0.0	71.4	-1.1	69.2	+2.5	50.7	-5.4	44.9	+0.6	38.3	+3.2	51.8	-0.0
Cape May C. H. ....	36.4	+2.1	28.8	-4.7	44.8	+3.2	45.6	-4.8	56.1	-4.6	65.0	-4.8	73.9	-0.2	71.7	-1.7	69.0	+1.2	52.4	-4.3	46.8	+0.2	41.0	+3.4	52.6	-1.4
<b>THE SEA COAST.</b>																										
Oceanic .....	34.5	+2.3	25.7	-6.1	41.4	+1.9	45.2	-5.8	55.4	-5.8	64.6	-5.3	73.7	-0.9	69.8	-3.4	67.2	-0.3	51.9	-3.5	44.2	-0.8	37.8	+2.0	51.0	-2.0
Long Branch .....	34.2	+2.0	26.0	-6.0	40.4	+1.0	43.2	-5.9	53.6	-5.8	62.2	-6.4	72.1	-0.7	69.8	-2.4	67.4	+0.3	51.6	-4.0	44.7	+0.1	38.2	+2.9	50.3	-1.2
Asbury Park .....	35.0	+2.5	27.4	-5.6	41.8	+3.0	43.6	-4.0	54.0	-3.5	62.4	-4.4	72.2	-0.3	71.2	-1.4	67.7	+0.1	52.3	-5.1	45.7	+0.2	38.8	+2.4	51.0	-1.1
Atlantic City .....	36.2	+2.1	28.2	-5.9	42.8	+2.0	44.6	-3.8	54.6	-4.0	62.5	-5.2	72.1	-1.3	70.8	-2.6	68.6	-0.4	53.1	-4.5	46.4	-1.0	39.9	+1.9	51.6	-1.1
Cape May City .....	36.2	+2.1	28.2	-5.9	42.8	+2.0	44.6	-3.8	54.6	-4.0	62.5	-5.2	72.1	-1.3	70.8	-2.6	68.6	-0.4	53.1	-4.5	46.4	-1.0	39.9	+1.9	51.6	-1.1



Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.
THE HIGHLANDS & KIT-TA-TINNY VALLEY.																								
Layton .....	64	7	43	14	82	29	74	25	89	14	89	22	90	*17	95	12	85	16	76	3	59	3	56	10
Sussex .....	63	7	41	14	83	29	71	25	89	14	88	22	88	*17	92	12	83	21	74	*3	59	2	57	10
Newton .....	64	7	46	10	82	29	70	25	90	14	90	25	91	*18										
Charlotteburg .....	63	7	46	14	77	29	73	25	82	14	88	25	91	20	94	12	82	*16	76	3	58	9	56	8
Dover .....	60	7	42	*2	77	29	72	*25	86	14	90	*22	92	20	94	12	85	21	74	3	55	*2	55	10
Belvidere .....	55	7	46	10	84	29	77	25	91	14	93	22	92	18	92	*8	87	17	75	*4	64	6	58	10
Phillipsburg .....	58	7	44	10	85	29	78	*25	89	14	92	22	93	17	94	12	89	4	78	3	59	*2	58	10
THE RED SAND STONE PLAIN.																								
River Vale .....	67	7	44	14	78	29	75	25	85	14	92	25	93	18	93	12	88	21	75	4	66	5	.....	.....
Paterson .....	67	7	46	14	79	*23	78	25	90	14	94	*25	93	18	95	*8	88	*16	77	3	62	5	58	10
Englewood .....	64	7	41	10	72	29	71	25	83	14	89	*25	89	*8	92	8	86	*17	74	*4	62	2	57	10
South Orange .....	63	7	45	14	75	23	77	20	84	14	94	*25	91	18	92	*13	84	*17	72	4	60	3	57	10
Newark .....	65	7	45	14	78	23	76	25	88	14	92	25	93	18	94	12	89	21	76	3	64	5	57	*8
New York, N. Y. ....	62	7	44	14	75	23	73	25	83	14	88	25	89	8	91	8	85	21	73	7	60	2	58	23
Jersey City .....	63	7	45	14	79	23	77	25	83	14	89	25	93	*17	94	8	88	*17	75	*3	60	*5	56	23
Bayonne .....	64	7	44	14	77	23	76	25	87	14	92	25	92	*17	94	8	89	21	73	3	61	5	59	23
Bergen Point .....	62	7	45	14	78	23	74	26	87	14	90	*25	91	17	91	*8	89	21	75	*3	64	10	59	23
Elizabeth .....	61	7	44	14	76	23	80	26	90	14	96	26	93	*19	92	12	87	21	75	*4	60	5	58	*10
Plainfield .....	61	7	45	14	79	23	79	26	86	14	92	25	92	*17	92	*8	88	17	74	4	61	5	58	10
Somerville .....	60	7	44	10	80	*23	80	26	88	14	93	25	94	18	95	8	90	*17	76	3	60	*3	59	10
Flemington .....	62	7	43	10	83	29	78	26	87	14	91	*22	94	19	92	8	89	21	77	3	60	*1	58	10
New Brunswick .....	62	7	43	*10	79	23	79	26	86	14	91	25	92	19	94	8	87	21	76	4	64	5	59	10
College Farm .....	62	7	45	14	79	*23	79	26	86	14	90	25	93	18	93									

\* Occurred on more than one date.

## Monthly minimum temperatures for the year 1907, with dates.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.
THE HIGHLANDS & KIT-TA TINNY VALLEY.																								
Layton .....	-19	27	-22	7	-9	7	19	2	22	12	33	13	41	4	39	*15	32	*26	19	*22	13	15	3	20
Sussex .....	-8	27	-9	24	-3	7	21	2	27	12	37	13	48	4	45	30	39	26	25	*27	18	15	13	*5
Newton .....	-11	27	-12	24	-1	7	19	2	24	12	36	13	40	4	45	30	39	26	25	*27	18	15	13	*5
Charlotteburg .....	-7	31	-22	7	-5	7	19	2	29	12	31	13	44	5	40	*27	31	27	19	25	14	15	13	*5
Dover .....	-3	24	-6	23	6	7	20	2	28	12	37	13	48	4	45	*27	34	27	23	*22	18	15	13	*5
Belvidere .....	-4	*24	-9	7	5	7	22	2	29	12	40	13	52	*4	47	29	38	27	25	*22	20	15	14	20
Phillipsburg .....	-2	24	-2	12	11	7	22	2	31	12	40	13	51	4	49	22	38	27	26	22	20	15	16	20
THE RED SAND STONE PLAIN.																								
River Vale .....	-10	31	-21	7	-11	7	20	3	25	12	34	13	46	4	39	30	31	27	18	25	16	15	.....	.....
Paterson .....	2	24	2	7	10	7	25	2	34	12	43	13	55	*4	51	*27	40	27	28	*22	24	15	17	.....
Englewood .....	-3	24	0	12	13	7	26	2	35	12	43	2	57	5	54	29	43	26	32	25	30	30	17	.....
South Orange .....	0	24	-1	12	13	7	23	2	32	12	41	*13	54	5	50	26	41	27	29	22	23	15	17	.....
Newark .....	-1	24	-2	12	10	7	23	2	33	12	44	1	55	4	51	27	42	26	29	27	23	15	16	.....
New York, N. Y. ....	0	24	1	12	16	7	26	2	36	12	45	2	61	5	59	29	46	26	36	31	33	30	19	.....
Jersey City .....	1	24	0	12	13	7	25	2	35	12	46	2	60	*4	56	*27	45	*26	32	31	28	15	18	.....
Bayonne .....	0	24	-1	*7	11	7	25	2	34	12	44	13	58	*4	53	*27	43	26	30	31	25	15	18	.....
Bergen Point .....	1	24	0	12	14	7	23	1	34	12	45	2	56	5	51	*30	44	*26	31	22	25	15	19	.....
Elizabeth .....	2	24	0	12	14	7	25	2	34	12	46	13	59	*4	54	*27	42	27	29	22	25	15	18	.....
Plainfield .....	-1	24	-5	7	12	7	23	2	30	12	44	*1	52	5	48	29	38	27	25	*22	21	15	15	.....
Somerville .....	-1	24	-10	7	9	7	23	2	28	12	38	13	52	5	48	29	38	*26	23	22	20	15	15	.....
Flemington .....	0	24	-9	7	8	12	23	2	29	12	39	13	52	4	49	*27	39	27	25	*22	22	15	16	.....
New Brunswick .....	-2	24	-5	7	5	7	21	6	28	12	38	13	50	5	49	*27	40	26	24	*22	19	15	11	.....
College Farm .....	-3	24	-5	7	5	7	21	2	29	12	39	13	51	5	48	15	37	27	24	22	20	15	13	.....
Lambertville .....	1	24	-2	*7	11	7	23	2	31	12	40	13	53	4	50	29	40	27	26	*25	20	15	17	.....
THE SOUTHERN INTERIOR.																								
Hightstown .....	-1	24	-11	7	10	7	23	2	31	12	39	13	52	5	49	29	39	27	26	22	22	15	17	.....
Trenton .....	-1	24	-2	12	16	7	25	2	33	12	41	13	56	5	54	*27	42	27	29	31	22	15	18	.....
Inlaystown .....	0	24	-10	7	10	*7	23	2	32	12	45	*1	53	4	49	*15	39	*26	25	22	21	15	17	.....
Lakewood .....	1	24	-3	7	10	7	23	2	31	12	41	13	53	5	51	30	40	27	26	22	21	15	16	.....
Beverly .....	1	24	-1	*7	11	7	24	2	33	12	41	13	53	5	51	30	40	27	26	22	21	15	16	.....
Brown's Mills .....	0	24	0	7	11	7	23	2	32	12	41	13	53	5	51	*15	39	27	26	22	21	15	17	.....
Moorestown .....	0	24	8	12	18	7	25	2	38	12	46	2	61	4	61	29	48	26	36	31	31	15	21	.....
Philadelphia, Pa. ....	0	24	-6	7	6	7	23	*2	30	12	46	2	61	4	61	29	48	26	36	31	31	15	21	.....
Toms River .....	0	24	-6	7	6	7	23	*2	30	12	46	2	61	4	61	29	48	26	36	31	31	15	21	.....
Indian Mills .....	2	24	2	7	9	7	24	2	30	12	37	13	51	*4	48	30	37	27	23	22	18	15	16	20
Clayton .....	3	24	-1	7	12	12	24	2	32	12	42	13	53	5	51	30	40	27	27	22	22	15	18	*1
Tuckerton .....	2	24	-1	*7	8	7	23	2	31	12	40	13	53	*5	49	*16	38	27	24	22	19	15	17	10
Friesburg .....	3	24	-5	7	14	*7	23	2	29	12	40	13	50	4	47	15	39	*26	25	31	23	15	18	.....
Vineland .....	2	24	0	7	12	12	24	2	30	12	41	13	53	*4	49	30	39	27	26	22	23	15	18	*1
Bridgeton .....	5	24	2	7	15	7	23	2	31	12	43	13	54	4	50	*15	40	*26	28	*22	24	15	19	.....
Woodbine .....	1	24	1	7	12	12	22	2	31	12	42	13	51	4	47	30	37	27	25	*22	21	15	17	20
Cape May C. H. ....	2	24	5	7	15	7	24	2	32	12	44	13	54	4	52	15	43	27	30	31	24	15	22	20
THE SEA COAST.																								
Oceanic .....	3	24	0	12	16	7	27	2	37	12	44	13	57	5	54	*16	42	27	29	22	24	15	20	*1
Long Branch .....	1	24	0	12	13	7	25	2	35	12	46	*2	57	27	55	31	42	26	33	*25	20	15	18	.....
Asbury Park .....	4	24	6	12	16	7	25	2	37	12	47	2	59	27	58	30	44	26	33	31	32	17	21	.....
Atlantic City .....	5	24	10	23	18	7	26	2	36	12	48	*2	60	4	56	15	50	26	32	31	32	30	23	.....
Cape May City .....																								

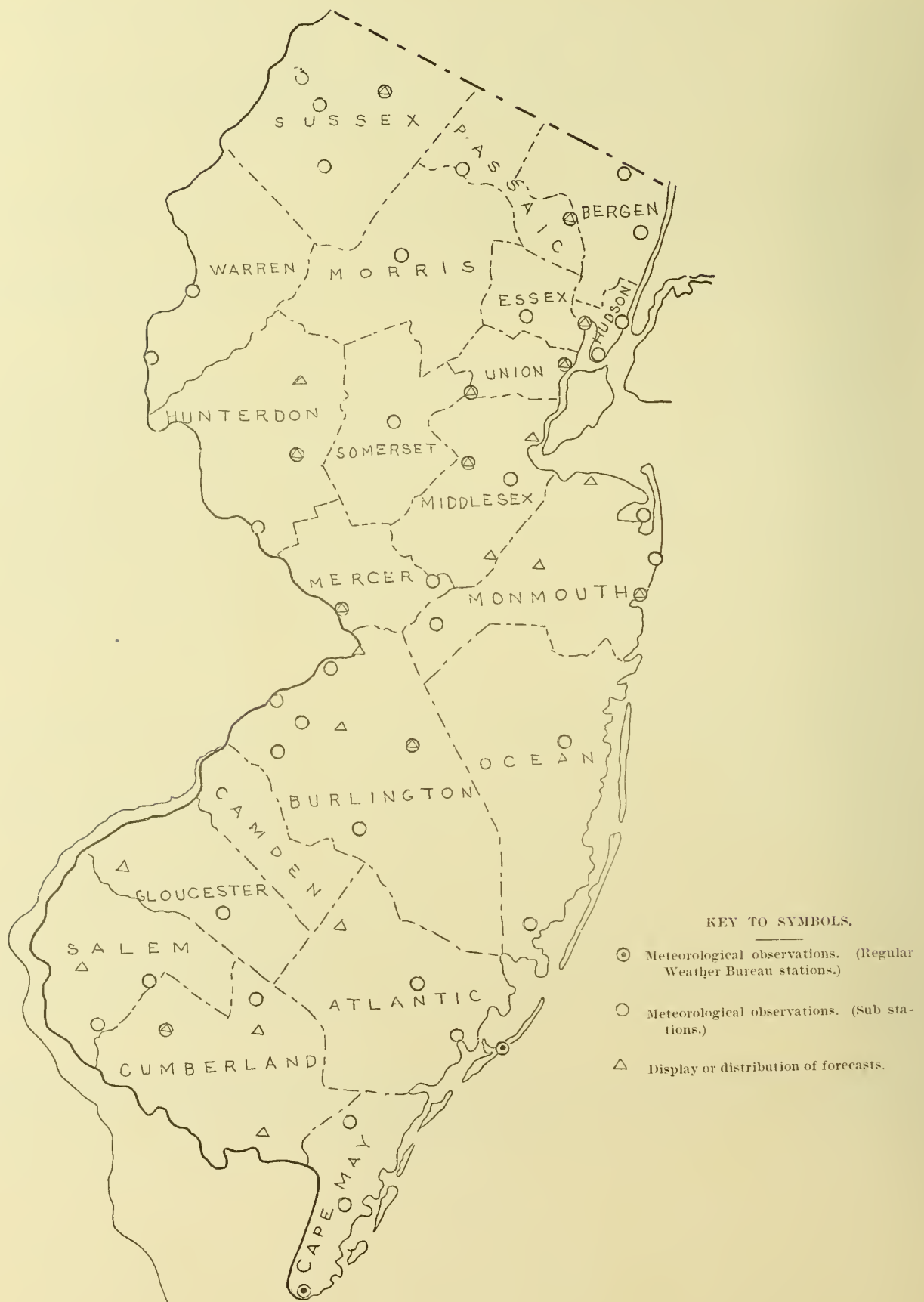
\* Occurred on more than one date.



## Monthly and Annual precipitation for the year 1907, with departures from the normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.
THE HIGHLANDS & KITTATINNY VALLEY.																										
Layton .....	3.55	+0.63	2.92	+0.56	2.50	-1.62	2.06	-1.22	2.59	-0.15	1.14	-0.49	1.51	-3.41	2.11	2.24	8.11	3.81	5.06	+1.01	5.18	+3.42	4.71	0.15	44.49	0.18
Sussex .....	2.51	-0.60	2.21	-1.07	2.37	-1.63	2.67	-0.53	3.21	-0.28	4.07	-0.07	2.00	-3.37	1.86	-2.73	9.51	5.44	6.37	+2.71	3.23	+2.44	1.51	-0.15	45.56	0.67
Silver's Lake .....	3.10	-0.07	2.09	-0.18	2.46	-1.32	2.63	-0.75	3.68	+0.52	5.02	+0.65	2.16	2.39	3.04	-2.29	10.67	5.44	6.31	+1.24	5.79	+3.95	5.79	-1.72	52.65	6.52
Newton .....	2.35	-1.19	2.39	-1.17	2.56	-1.17	2.55	-0.42	2.81	-1.33	4.77	+0.88	1.26	-3.67	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Charlotteburg .....	3.83	+0.06	2.41	-2.10	2.41	-2.05	3.47	-0.54	3.80	-0.42	5.68	+1.63	1.35	-3.67	2.05	-3.02	12.54	+7.60	6.36	+1.41	6.52	+3.26	5.74	-1.23	56.19	+3.33
Pompton Plains .....	4.90	.....	3.34	.....	2.84	.....	3.66	.....	4.44	.....	4.61	.....	1.07	.....	3.15	.....	12.37	.....	6.50	.....	5.90	.....	5.49	.....	58.27	.....
Boonton .....	4.93	+1.25	2.15	-2.29	3.46	+0.04	3.40	-0.03	4.77	-0.07	3.51	+0.41	2.53	-2.15	3.49	-0.80	12.05	+0.63	6.16	+3.11	6.22	.....	5.43	+1.88	59.30	.....
Dover .....	3.60	-0.91	3.57	-0.75	3.31	-0.66	3.82	-0.50	3.67	-0.56	4.09	+0.08	2.71	-2.99	2.99	-2.31	10.38	-6.24	7.18	+3.27	6.93	+3.03	6.40	+2.42	58.65	+7.28
Belvidere .....	3.99	+0.88	3.10	-0.82	3.22	-0.81	2.90	-0.07	2.51	-1.59	3.99	+0.24	3.58	-1.89	2.79	-2.35	8.42	+4.63	4.82	+1.16	6.83	+3.56	4.74	+0.79	50.89	+3.73
Phillipsburg .....	3.70	+0.06	2.27	-1.09	3.16	-0.28	2.75	-0.33	3.32	-0.85	3.83	+0.10	0.97	-3.92	3.04	-1.80	8.51	+4.74	4.63	+1.27	5.63	+2.30	4.42	+0.68	46.23	+0.88
THE RED SAND STONE PLAIN.																										
Mahwah .....	5.25	.....	2.83	.....	2.81	.....	3.18	.....	4.16	.....	4.48	.....	1.99	.....	1.86	.....	10.55	.....	6.91	.....	5.28	.....	5.39	.....	54.69	.....
River Vale .....	5.40	+1.52	3.90	-0.54	2.45	-2.11	4.20	-0.70	4.12	-0.42	3.53	-0.19	1.45	-3.09	1.98	-2.51	8.06	+4.16	4.80	+0.65	3.45	-0.29	.....	.....	.....	.....
Paterson .....	3.47	-0.77	2.76	-1.83	3.05	-1.68	3.78	-0.39	3.72	-0.73	3.36	-0.85	1.86	-3.62	3.29	-1.71	10.33	-5.80	5.80	+1.67	5.27	+2.10	5.51	+1.62	52.20	+0.39
Englewood .....	3.39	-0.57	2.61	-2.39	4.38	0.00	4.40	+1.44	4.35	+0.54	3.52	-0.50	1.35	-4.97	2.74	-2.28	8.40	+4.72	4.17	+0.32	5.69	+2.45	4.20	-0.37	49.20	-1.61
Little Falls .....	5.61	.....	2.61	.....	2.41	.....	3.59	.....	4.32	.....	3.68	.....	1.99	.....	3.44	.....	9.48	.....	6.06	.....	6.00	.....	5.53	.....	54.72	.....
South Orange .....	3.24	-0.95	2.86	-1.22	3.39	-0.62	3.80	+0.38	5.02	+1.53	3.67	+0.10	1.30	-3.92	2.46	-2.59	8.92	+4.88	5.29	+1.37	5.18	+1.69	4.77	+0.96	49.90	+1.61
Chatham .....	5.80	.....	1.80	.....	2.71	.....	4.06	.....	5.13	.....	3.70	.....	1.43	.....	2.65	.....	8.52	.....	5.96	.....	6.35	.....	5.32	.....	53.43	.....
Newark .....	4.93	+1.19	3.72	+0.08	4.31	+0.35	5.89	+2.33	6.45	+2.53	4.37	+0.75	0.95	-3.84	3.32	-1.92	10.17	+6.35	6.07	+2.27	6.01	+1.41	4.87	+1.12	60.06	+12.62
New York, N. Y. ....	3.26	-0.53	2.52	-1.22	3.80	-0.30	3.89	-0.59	4.08	+0.90	3.29	+0.03	1.18	-3.36	4.28	-2.05	8.00	+4.41	3.82	+0.11	5.05	+1.61	3.91	+0.46	45.28	+0.65
Jersey City .....	3.52	.....	3.06	.....	3.55	.....	4.64	.....	4.55	.....	3.15	.....	1.22	.....	2.79	.....	7.37	.....	4.45	.....	5.34	.....	4.43	.....	48.07	.....
Bayonne .....	3.55	+0.23	2.61	-1.20	3.37	-0.82	3.97	+0.72	4.44	+0.93	3.70	-0.02	1.58	-3.82	2.47	-2.67	7.44	+3.97	4.28	+0.46	4.97	+1.58	4.34	+0.85	46.72	+0.21
Bergen Point .....	4.05	-0.04	2.88	-1.11	2.39	-2.37	4.77	-0.75	4.60	-1.45	3.95	-0.04	1.69	-3.91	2.53	-3.19	8.02	-3.56	4.52	.....	6.60	+3.37	4.80	+0.52	50.89	.....
Elizabeth .....	3.49	-0.69	2.24	-2.12	3.08	-1.32	4.71	+1.24	4.55	-0.75	3.82	+0.13	1.29	-4.41	2.17	-2.47	6.18	-1.95	3.95	-0.09	4.99	+1.44	5.16	+1.44	45.63	-4.15
Plainfield .....	3.57	-0.18	2.81	-1.23	3.17	-1.19	3.10	-0.83	4.09	-0.14	3.31	-0.74	2.26	-3.83	2.92	-2.18	7.44	-2.55	4.30	+0.12	6.01	+2.47	4.45	+0.62	47.43	-4.28
Sumerville .....	3.94	+1.14	2.68	-1.27	2.72	-1.38	3.22	-0.03	4.53	+0.47	3.57	-0.42	4.33	-0.73	2.79	-2.14	7.88	+3.99	4.27	+0.92	5.94	+2.81	4.75	+0.94	50.62	+3.30
Flemington .....	3.85	+0.25	2.72	-0.80	3.52	-0.88	2.74	-0.71	4.34	+0.81	4.16	+0.36	3.74	-1.73	2.95	-2.46	11.24	+6.82	4.78	+0.83	5.95	+3.23	4.79	+0.96	54.78	+6.68
New Brunswick .....	3.97	+0.17	2.35	-1.37	4.15	+0.29	3.55	-0.20	4.30	+0.35	3.70	-0.16	4.58	-0.49	1.79	-3.22	6.64	-2.82	4.85	+1.23	6.00	+2.28	5.00	+1.29	50.88	+2.99
College Farm .....	3.44	+0.16	2.25	-1.36	3.29	-0.79	2.22	-1.23	4.50	+0.78	3.44	+0.11	6.42	0.00	2.79	-2.96	6.85	-2.88	4.95	+0.84	5.48	+2.18	2.47	-1.27	48.10	+0.66
Rumyon .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lambertville .....	3.78	-0.28	2.86	-0.45	3.10	-0.93	3.24	-0.11	4.57	+0.25	5.21	+0.91	3.34	-1.93	3.00	-1.62	7.84	+3.31	4.93	+1.17	5.73	+2.39	4.64	+1.13	52.24	+3.84
THE SOUTHERN INTERIOR.																										
Hightstown .....	4.24	+0.84	1.92	-2.15	3.41	-0.62	3.60	-0.41	5.79	+1.69	4.44	+0.71	3.40	-2.12	2.43	-1.81	6.48	-2.77	4.14	+0.06	4.19	+0.19	3.84	+0.26	47.91	-0.59
Trenton .....	4.30	+0.82	2.53	-1.06	2.65	-1.71	3.01	-0.48	6.27	+2.30	5.26	+1.47	3.74	-1.74	3.74	-1.83	6.81	-2.81	2.98	-0.87	5.52	+1.63	4.81	+1.34	51.62	+2.68
Imlaystown .....	4.44	+0.95	2.30	-1.45	2.58	-1.82	3.66	-0.49	3.07	-1.08	5.22	+1.47	3.04	-1.98	4.01	-0.50	7.29	-2.63	4.11	-0.09	4.61	+1.08	4.04	+0.61	48.37	+0.31
Lakewood .....	3.95	-0.54	2.76	-0.80	2.93	-1.25	4.26	-1.12	5.96	+3.47	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Burlington .....	4.08	+0.92	2.19	-1.18	3.50	-0.53	3.70	-0.21	5.95	+1.77	5.12	+1.22	3.62	-1.39	4.23	-1.76	6.89	-2.98	4.48	+0.32	5.47	+2.07	4.47	+0.42	53.70	+5.05
Beverly .....	3.54	-0.14	2.98	-0.79	2.98	-1.22	4.13	-0.73	6.01	+1.89	5.20	+1.33	4.60	-0.58	4.46	-0.72	5.94	-2.29	3.99	+0.16	5.12	+1.67	4.58	+1.01	53.53	+5.61
Rancocas .....	3.24	-0.27	2.83	-0.86	3.91	-0.23	3.71	-0.73	5.20	+1.46	6.64	+3.19	3.88	-1.66	7.61	+2.91	7.19	+3.13	4.03	-0.06	5.37	+1.76	3.94	+0.24	57.04	+10.34
Brown's Mills .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Moorestown .....	2.93	-0.60	2.86	-0.82	2.66	-1.11	3.68	+0.59	5.34	+1.16	6.85	+3.15	4.45	-0.17	6.48	+1.67	6.71	+3.06	3.89	+0.32	5.49	+1.89	4.25	+0.73	55.62	+9.87
Philadelphia, Pa. ....	2.65	-0.76	2.75	-0.63	2.81	-0.64	2.88	-0.03	5.61	+2.41	4.66	+1.36	3.90	-0.43	3.59	-1.02	5.99	+2.61	3.38	+0.28	5.85	+2.79	4.67	+1.63	48.74	+7.57
Toms River .....	4.42	+0.91	2.42	-2.22	2.30	-2.25	5.14	+1.48	7.34	+3.11	.....	.....	.....	.....	.....	.....	9.17	+5.77	2.70	-1.47	.....	.....	6.20	+2.31	.....	.....
Indian Mills .....	3.18	+0.05	3.45	-0.49	2.93	-1.72	4.61	+1.52	6.03	+3.62	4.73	+0.52	3.06	-1.05	5.53	-0.55	10.51	+5.81	4.37	+0.19	.....	.....	4.71	.....	58.05	.....
Clayton .....	2.55	-0.55	2.19	-1.69	2.60	-1.34	4.15	+0.77	5.18	+2.28	6.00	+2.60	2.30	-2.70	5.79	+0.52	7.62	+3.90	4.08	+0.68	5.85	+2.71	5.59	+1.83	53.90	+9.10
Tuckerton .....	3.11	-0.25	2.95	-0.84	3.06	-1.50	4.52	+0.66	5.82	+2.75	4.27	-0.03	1.13	-2.73	7.58	+1.69	6.34	-2.83	2.89	-1.66	5.89	+3.34	6.65	+1.73	54.21	+6.00
Egg Harbor City .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....												

# Observations and Forecast Display Stations.





# Total Precipitation for the Year 1907.



## COOPERATIVE OBSERVERS.

Station.	Observer.	Station.	Observer.	Station.	Observer.
Asbury Park.....	B. H. Obert.	Friesburg.....	H. C. Perry.	Paterson.....	Heber A. Probert.
Bayonne.....	John H. Eadie.	Hightstown.....	Ernst Wenger.	Phillipsburg.....	D. W. Smith.
Belvidere.....	Samuel J. Hixson.	Inlaytown.....	F. C. Price.	Plainfield.....	John Neagle.
Bergen Point.....	W. H. Mitchell.	Indian Mills.....	Jas. M. Armstrong.	Pleasantville.....	L. Van Gilder.
Beverly.....	C. F. Richardson.	Jersey City.....	S. K. Pearson, Jr.	Rancocas.....	Spencer Haines.
Bridgeton.....	Henry A. Jorden.	Lakewood.....	C. A. Roe.*	River Vale.....	G. S. M. Holdrum.
Brown's Mills.....	M. W. Hargrove.	Lambertville.....	Wm. R. Bowne.	Rumyon.....	J. H. Cottrell.
Burlington.....	D. S. B. McCoy.	Layton.....	Warren C. Hursh.	Somerville.....	Peter Hardcastle.
Canton.....	John H. Maskell.	Long Branch.....	E. B. Bobbitt.	South Orange.....	Wm. J. Chandler.
Cape May C. H.....	L. T. Garretson.	Moorestown.....	John C. Beans.	Sussex.....	W. H. Seeley.
Charlotteburg.....	George S. Briggs.	Newark.....	Wm. Wiener.	Toms River.....	F. G. Bunnell.
Clayton.....	W. T. Farley.	New Brunswick (College Farm).....	Miss J. A. Voorhees and G. G. Manning.	Trenton.....	E. R. Cook.
Culver's Lake.....	B. E. Riker.	New Brunswick.....	Wm. T. Woerner.	Tuckerton.....	F. R. Austin.
Dover.....	Wm. C. Harris.	Newton.....	Brice Bowman and B. H. Kienbaum.	Vineland.....	Alfred Chalmers.
Egg Harbor City.....	Chas. Sahlmann.	Oceanic.....	Rev. S. W. Knipe and C. E. Dietz.	Woodbine.....	A. R. Merrill and R. D. Maltby.
Elizabeth.....	W. M. Oliver.				
Englewood.....	Wm. C. Tucker.				
Flemington.....	H. E. Deats.				

\* Deceased.

## FORECAST DISPLAY STATIONS AND DISTRIBUTING CENTERS.

Station.	Displayman.	Station.	Displayman.	Station.	Displayman.
WEATHER AND TEMPERATURE FLAGS.					
Asbury Park.....	C. A. Toland.	Mays Landing.....	A. D. Makepeace.	Flemington (500).....	Merchants & Farmers Telephone & Telegraph Co.
Bridgeton.....	H. A. Jorden.	Medford .....	Evans & Willis.	Hammononton (350).....	Hammononton Telephone & Telegraph Co.
Cape May.....	Local Office, U. S. Weather Bureau.	New Egypt.....	F. S. Gaskill.	Lebanon (335) ... ..	Lebanon Telephone Co.
Cape May Point.....	U. S. L. S. Service.	New Lisbon.....	J. J. White.	Millville (1,800).....	Interstate Telephone & Telegraph Co.
Flemington.....	H. E. Deats.	Pemberton.....	T. Rudd.	Mount Holly (600).....	Interstate Telephone & Telegraph Co.
Jamesburg.....	J. L. Suydam.	Stewartsville.....	J. H. Hulshizer, Jr.	Newark (69) .....	Newark High School.
Newark.....	Wm. Wiener.	Toms River.....	J. Holman.	New Brunswick (180).....	Postmaster.
Port Monmouth.....	W. M. Seeley.	Vincentown.....	M. L. Haines.	New York, N. Y. (401).....	Local Office, U. S. Weather Bureau.
Port Norris.....	J. H. Barraclough.	DISTRIBUTING CENTERS.			
COLD WAVE, OR FROST WARNINGS ONLY.					
Atco.....	A. J. Day.	Atlantic City (155) ...	Local Office, U. S. Weather Bureau.	Paterson (1025).....	Paterson, Passaic & Suburban Telephone Co.
Atsion.....	Postmaster.	Atlantic City (910) ...	Delaware & Atlantic Telegraph & Telephone Co.	Perth Amboy (300)....	Hudson & Middlesex Telephone Co.
Bayonne.....	Bayonne Herald.	Atlantic City (2,100) ..	Atlantic Coast Telephone Co.	Philadelphia, Pa. (200).....	Local Office, U. S. Weather Bureau.
Belle Plain.....	E. H. Durrell.	Bordentown (200).....	Bordentown Telephone & Telegraph Co.	Plainfield (95) ....	John Neagle.
Berlin.....	H. Sharp.	Brown's Mills (250)....	Farmers Telephone Co.	Salem (200).....	Interstate Telephone & Telegraph Co.
Elwood.....	Postmaster.	Cape May (308).....	Local Office, U. S. Weather Bureau.	Sussex (250) .....	Farmers Union Telephone Co.
Farmingdale.....	A. M. T. Flandreau.	Egg Harbor City (350).....	Egg Harbor City Telephone Co.	Swedesboro (925).....	Peoples Rural Telephone Co.
Freehold.....	J. A. Yard.	Elizabeth (300).....	Elizabeth Telephone Co.	Trenton (3,000) .....	Interstate Telephone & Telegraph Co.
Hackettstown.....	W. F. Shields.	Englishtown (150) ...	Hudson & Middlesex Telephone Co.		
Jersey City.....	J. H. Olhausen.	Erma (100) .....	Citizens Local Telephone Co.		
Lakewood.....	E. Holman.	Flemington (200).....	A. B. Reading Telephone System.		
Laurel Springs.....	E. Z. Collings.				

Figures following the name of center indicate the number of forecasts distributed by mail or telephone.



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U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR JANUARY, 1908

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

---

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF

WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.

WEATHER BUREAU OFFICE

FEBRUARY 20, 1908

### Monthly Mean Isotherms and Prevailing Winds, January, 1908.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XXI. ATLANTIC CITY, N. J., JANUARY, 1908. No. 1.

## GENERAL SUMMARY.

January, 1908, averaged milder than usual thruout the greater part of the State. The monthly precipitation was nearly normal and occurred principally as rain. The snowfall was unusually light over most of the northern counties, and was heavy, but not excessive, along the coast, and over comparatively small areas in the southern interior. The ground was bare of snow during a large part of the month. The sunshine was abundant.

The mean temperature exceeded the normal generally. The excess in the southern counties averaged less than  $1.5^{\circ}$ , but it was much more decided in parts of Bergen, Essex, Passaic and Warren counties, in the north, where it was generally more than  $3^{\circ}$  per day. The first decade averaged nearly normal, the coldest days during this period being the 6th, 7th, and 10th. During the period extending from the 11th to the 23d, inclusive, the daily mean temperatures were almost continuously above the normal, but from the 24th to the end of the month they were generally below the normal. The monthly maximum temperatures ranged from  $50^{\circ}$  to  $60^{\circ}$ , and were reported for the most part on the 12th, 21st, and 22d. The first well-marked, tho not notably severe, cold wave of the season prevailed during the last two days of the month, the monthly minimum temperatures, ranging from  $8^{\circ}$  to  $-6^{\circ}$ , being reported on the 31st, without exception. The monthly extremes of temperature were well within the January records of previous years.

Over a large part of the district the departures of monthly precipitation from the normal were unimportant. The month was somewhat drier than usual in the extreme north, and over small areas in the central and southern portions of the State, while local areas in Atlantic, Cape May, Mercer and Ocean counties, received appreciably more than the average amounts of precipitation. Precipitation occurred generally on the 4th, 7th, 12th, 16th, 23d-24th, 26th-27th, and 29th, the greatest amounts being reported on the 7th, 12th, and 23d-24th. An exceptionally severe winter thunderstorm was reported on the 12th. The only snowfall of consequence during the month occurred on the 23d-24th, when the southern and eastern counties received amounts varying from about 10 to 22 inches. In some of the southern counties this storm interrupted railway traffic and communication by wire for several days. The depths of snow on the ground were, however, greatly reduced before the end of the month, and at the close large areas of the State were uncovered.

High winds, with gales on the 7th and 24th, occurred frequently during the month.

## TEMPERATURE.

The monthly mean,  $31.8^{\circ}$ , was  $1.7^{\circ}$  above the normal. The mean maximum was  $40.1^{\circ}$ , the mean minimum  $23.4^{\circ}$ , and the mean daily range  $16.7^{\circ}$ .

The means for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley,  $28.3^{\circ}$ ,  $+2.2^{\circ}$ ; Red Sand Stone Plain,  $31.6^{\circ}$ ,  $+2.1^{\circ}$ ; Southern Interior,  $32.9^{\circ}$ ,  $+1.1^{\circ}$ ; Sea Coast,  $33.8^{\circ}$ ,  $+1.1^{\circ}$ .

The highest monthly mean was  $35.4^{\circ}$ , at Cape May, and the lowest,  $26.4^{\circ}$ , at Layton, the range of monthly mean temperature being  $9.0^{\circ}$ .

The highest temperature,  $60^{\circ}$ , occurred at Bridgeton and Brown's Mills, on the 12th, and at Paterson, on the 21st, and the lowest,  $-6^{\circ}$ , at Layton, on the 31st, the monthly range within the State being  $66^{\circ}$ .

The greatest local monthly range,  $62^{\circ}$ , occurred at Layton, and the least,  $49^{\circ}$ , at Cape May.

The greatest daily range,  $45^{\circ}$ , occurred at Brown's Mills, on the 7th.

## PRECIPITATION.

The average, 3.74 inches, was 0.21 of an inch above the normal, the averages for the various districts, with the departures from the normal, being as follows: The Highlands and Kittatinny Valley, 3.36 inches,  $-0.18$  inch; Red Sand Stone Plain, 3.99 inches,  $+0.13$  inch; Southern Interior, 3.66 inches,  $+0.49$  inch; Sea Coast, 3.89 inches,  $+0.24$  inch.

The greatest amount, 5.22 inches, occurred at Toms River, and the least, 2.29 inches, at Layton.

The greatest amount in 24 hours, 2.35 inches, occurred at Newark, on the 12th-13th.

No excessive precipitation occurred during the month.

The average snowfall, unmelted, was 9.9 inches, the averages for the various districts being as follows: The Highlands and Kittatinny Valley, 6.4 inches; Red Sand Stone Plain, 9.0 inches; Southern Interior, 11.0 inches; Sea Coast, 15.2 inches. The greatest monthly snowfall, 22.0 inches, occurred at Cape May, the greatest 24-hour amount, 20.0 inches, at Cape May, on the 24th.

Measurable precipitation occurred on an average of 9 days.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 12; partly cloudy, 11; cloudy, 8. The duration of sunshine was above the normal, the percentage of the possible amount being 60, at Atlantic City and Jersey City.

## WIND.

Northwest winds prevailed. High winds were reported on the 5th, 7th, 12th, 14th, 22d, 23d, 24th, 26th, 27th, 29th, and 30th. The following maximum velocities (for 5-minute periods) were reported: Atlantic City, 41 miles per hour, from the southwest, on the 7th; Jersey City, 48 miles per hour, from the northeast, on the 7th.

## MISCELLANEOUS PHENOMENA.

*Lightning*.—Cape May Court House, 13th.

*Meteors*.—Bayonne, 2d; Moorestown, 3d.

*Thunderstorms* (dates and number of reports).—12th, 32.

*Fog*.—Asbury Park, Atlantic City, Bayonne, 12th; Cape May,





## CLIMATOLOGICAL DATA FOR JANUARY, 1908.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing direction of wind.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.			Number cloudy days.
THE HIGHLANDS & KITTATINNA VAL.																				
Layton	Sussex	550	9	26.4	+2.6	56	21	-6	31	36	2.29	-0.72	1.29	6.3	7	13	9	9	w.	Warren C. Hursh.
Sussex	do	442	14	28.4	+2.3	54	21	-1	31	34	2.91	-0.23	1.53	6.5	7	10	12	9	nw.	Prof. W. H. Seeley.
Culver's Lake	do	848	7	...	...	...	...	-5	31	...	2.72	-0.45	1.30	7.3	9	14	10	7	nw.	B. E. Riker.
Newton	do	678	28	28.2	+2.8	50	22	-5	31	30	3.15	-0.36	1.05	6.8	7	15	7	9	sw.	B. H. Kienbaum.
Charlotteburg	Passaic	719	16	27.8	+0.9	55	21	-3	31	30	3.66	0.11	1.80	6.0	6	11	14	6	w.	G. S. Briggs.
Pompton Plains	Morris	195	0	...	...	...	...	...	...	...	4.33	...	1.75	6.0	8	...	...	...	n.	River & Flood Service.
Boonton	do	413	11	...	...	...	...	...	...	...	4.07	+0.39	1.72	8.1	9	...	...	...	nw.	River & Flood Service.
Dover	do	575	24	26.9	+0.4	52	21	-1	31	31	4.21	-0.29	1.95	5.7	6	8	14	9	...	William C. Harris.
Belvidere	Warren	280	18	30.2	+3.5	57	21	1	31	34	3.35	-0.02	1.79	5.0	7	15	6	10	...	Samuel J. Hixson.
Phillipsburg	do	196	6	30.2	+3.6	51	21	1	31	30	2.88	-0.76	1.36	5.8	9	17	6	8	nw.	D. W. Smith.
THE RED SAND STONE PLAIN.																				
Mahwah	Bergen	...	6	...	...	...	...	...	...	...	3.77	...	1.70	7.3	9	...	...	...	nw.	River & Flood Service.
River Vale	do	70	17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	G. S. M. Holdrum.
Paterson	Passaic	110	32	32.4	+3.2	60	21	2	31	29	3.45	-0.71	1.42	7.0	10	9	17	5	nw.	H. A. Probert.
Englewood	Bergen	135	18	32.2	+3.4	53	7	3	31	32	4.20	+0.07	1.41	12.5	9	12	11	8	nw.	William C. Tucker.
Little Falls	Passaic	175	6	...	...	...	...	...	...	...	4.00	...	1.60	7.3	10	...	...	...	w.	River & Flood Service.
South Orange	Essex	200	39	30.2	+1.6	55	21	1	31	28	4.20	-0.08	1.62	9.5	9	10	14	7	w.	W. J. Chandler, M. D.
Chatham	Morris	234	6	...	...	...	...	...	...	...	4.47	...	2.15	7.2	10	...	...	...	w.	River & Flood Service.
Newark	Essex	140	66	32.4	+3.4	57	21	1	31	24	4.50	+0.76	2.35	6.1	12	10	12	9	sw.	Wm. Wiener.
New York, N. Y.	New York	314	38	32.0	+1.8	53	21	4	31	26	3.84	+0.05	1.31	10.6	9	9	14	8	nw.	U. S. Weather Bureau.
Jersey City	Hudson	15	3	32.4	...	55	*21	3	31	24	4.03	...	1.35	11.9	9	9	13	9	nw.	Samuel K. Pearson, Jr.
Bayonne	do	50	18	31.7	+2.0	57	21	3	31	29	3.74	+0.41	1.20	12.4	9	12	10	9	nw.	John H. Eadie.
Bergen Point	do	37	11	32.2	+1.8	57	21	3	31	30	4.37	+0.28	1.52	15.8	9	10	15	6	nw.	Dr. W. H. Mitchell.
Elizabeth	Union	33	29	32.2	+2.3	57	21	3	31	28	3.82	-0.34	1.65	6.0	9	13	9	9	nw.	W. M. Oliver.
Plainfield	do	100	18	30.2	+1.5	54	22	0	31	33	4.29	+0.54	1.92	8.7	10	8	17	6	sw.	John Neagle.
Somerville	Somerset	76	29	30.8	+2.6	55	21	0	31	30	4.28	+0.52	2.00	7.5	10	10	15	6	nw.	Peter Hardcastle.
Flemington	Hunterdon	187	11	31.2	+2.0	55	21	3	31	31	3.75	+0.09	1.57	5.5	9	15	10	6	w.	H. E. Deats.
New Brunswick	Middlesex	61	55	31.8	+1.4	53	21	-2	31	32	4.22	+0.42	1.85	11.1	8	13	10	8	w.	Wm. T. Woerner.
College Farm	do	100	13	30.4	+0.7	53	21	-1	31	31	2.67	-0.62	0.87	8.0	9	14	11	6	nw.	George G. Manning.
Rumson	do	18	1	...	...	...	...	...	...	...	4.46	...	1.37	9.2	8	15	7	6	nw.	J. H. Cottrell.
Lambertville	Hunterdon	95	22	31.8	+2.1	55	21	4	31	29	3.66	-0.31	1.25	8.0	7	15	8	9	nw.	William R. Bowne.
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	17	32.0	+2.7	53	*12	2	31	27	3.52	+0.06	1.14	10.0	8	14	8	9	nw.	Ernst Wenger.
Trenton	do	60	39	34.3	+1.5	55	12	2	31	28	4.30	+0.80	1.20	9.0	9	11	10	10	nw.	E. R. Cook.
Imlaystown	Monmouth	106	22	31.6	0.0	56	12	2	31	31	3.73	-0.20	1.51	13.3	9	14	8	9	nw.	F. C. Price, M. D.
Burlington	Burlington	12	16	...	...	...	...	...	...	...	3.65	-0.49	1.13	10.3	8	15	9	7	nw.	D. S. B. McCoy.
Beverly (d)	do	30	24	33.6	+2.8	56	12	...	...	...	3.2	-0.32	1.53	8.8	8	13	10	8	w.	C. F. Richardson.
Rancocas (f)	do	68	23	...	...	58	12	3	31	...	3.28	-0.22	1.14	10.0	8	14	7	10	nw.	Spencer Haines.
Brown's Mills (a)	do	71	2	32.4	...	60	12	2	31	45	3.75	...	1.20	12.0	9	...	...	...	nw.	M. W. Hargrove.
Moorestown	do	71	44	32.3	+2.2	58	12	2	31	30	3.91	+0.42	1.35	12.2	8	12	10	9	w.	John C. Beans.
Philadelphia, Pa.	Philadelphia	117	38	34.7	+2.9	57	*12	9	31	24	3.14	-0.27	1.06	6.9	9	14	8	9	nw.	U. S. Weather Bureau.
Toms River (g)	Ocean	33	17	31.3	+0.2	57	*12	-3	31	31	5.22	+1.72	2.00	20.0	9	15	8	8	nw.	F. G. Bunnell.
Indian Mills	Burlington	76	8	32.5	+1.2	58	*12	3	31	38	4.12	-0.99	1.58	14.0	9	12	12	7	w.	James Armstrong.
Clayton	Gloucester	126	12	31.3	-0.2	56	12	5	31	27	3.41	-0.36	1.07	8.0	7	11	12	8	w.	Wm. T. Farley.
Hammononton	Atlantic	80	11	...	...	...	...	...	...	...	4.52	-1.28	2.02	18.0	9	13	9	9	nw.	Orville Bassett.
Tuckerton	Ocean	23	11	32.6	+0.7	59	22	3	31	28	3.81	+0.54	1.15	10.5	10	16	8	7	sw.	F. R. Austin.
Egg Harbor City	Atlantic	63	19	...	...	59	12	5	31	...	4.07	+0.43	1.41	12.1	10	10	11	10	w.	Charles Sanbmann.
Friesburg	Salem	100	16	33.2	+0.6	59	12	3	31	31	2.79	-0.15	0.95	9.0	9	14	10	7	nw.	H. C. Perry.
Vineland	Cumberland	118	41	33.2	+1.4	58	12	3	31	35	4.27	-0.21	1.15	10.0	11	10	12	9	nw.	Alfred Chalmers.
Canton	Salem	24	7	...	...	...	...	...	...	...	2.44	-0.11	1.00	10.0	6	10	13	8	...	J. H. Maskell.
Bridgeton	Cumberland	30	33	33.8	-0.2	60	12	6	31	32	2.95	-0.35	1.50	12.0	7	15	5	11	nw.	Henry A. Jorden.
Pleasantville	Atlantic	26	11	...	...	...	...	...	...	...	2.70	+0.07	0.94	7.4	11	15	7	9	...	L. Van Gilder.
Northfield	do	8	...	...	...	...	...	...	...	...	2.95	...	1.15	6.3	10	...	...	...	nw.	Wm. L. Flick.
Port Norris	Cumberland	...	...	...	...	...	...	...	...	...	3.29	...	0.96	8.0	7	...	...	...	nw.	J. H. Barraclough.
Woodbine	Cape May	43	17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	R. D. Maltby.
Cape May C. H.	do	19	21	34.4	+0.1	57	22	5	31	31	4.09	+0.79	1.35	13.5	10	13	9	9	nw.	L. T. Garretson.
THE SEA COAST.																				
Oceanic (b)	Monmouth	16	22	32.6	+0.3	57	21	4	31	30	4.31	+0.33	1.82	15.0	10	14	10	7	nw.	Prof. C. E. Dietz.
Long Branch	do	30	...	33.5	...	55	21	3	31	29	4.11	...	1.60	16.0	8	14	10	7	nw.	B. B. Bobbitt.
Asbury Park	do	22	20	33.2	+1.1	53	22	2	31	25	3.63	-0.01	1.38	15.0	9	14	9	8	w.	B. H. Obert.
Atlantic City	Atlantic	16	35	34.1	+1.6	59	22	7	31	27	3.13	-0.27	1.10	8.0	10	10	10	11	nw.	Section Center.
Cape May City	Cape May	17	24	35.4	+1.3	57	22	8	31	28	4.27	+0.90	1.20	22.0	10	10	14	7	nw.	U. S. Weather Bureau.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

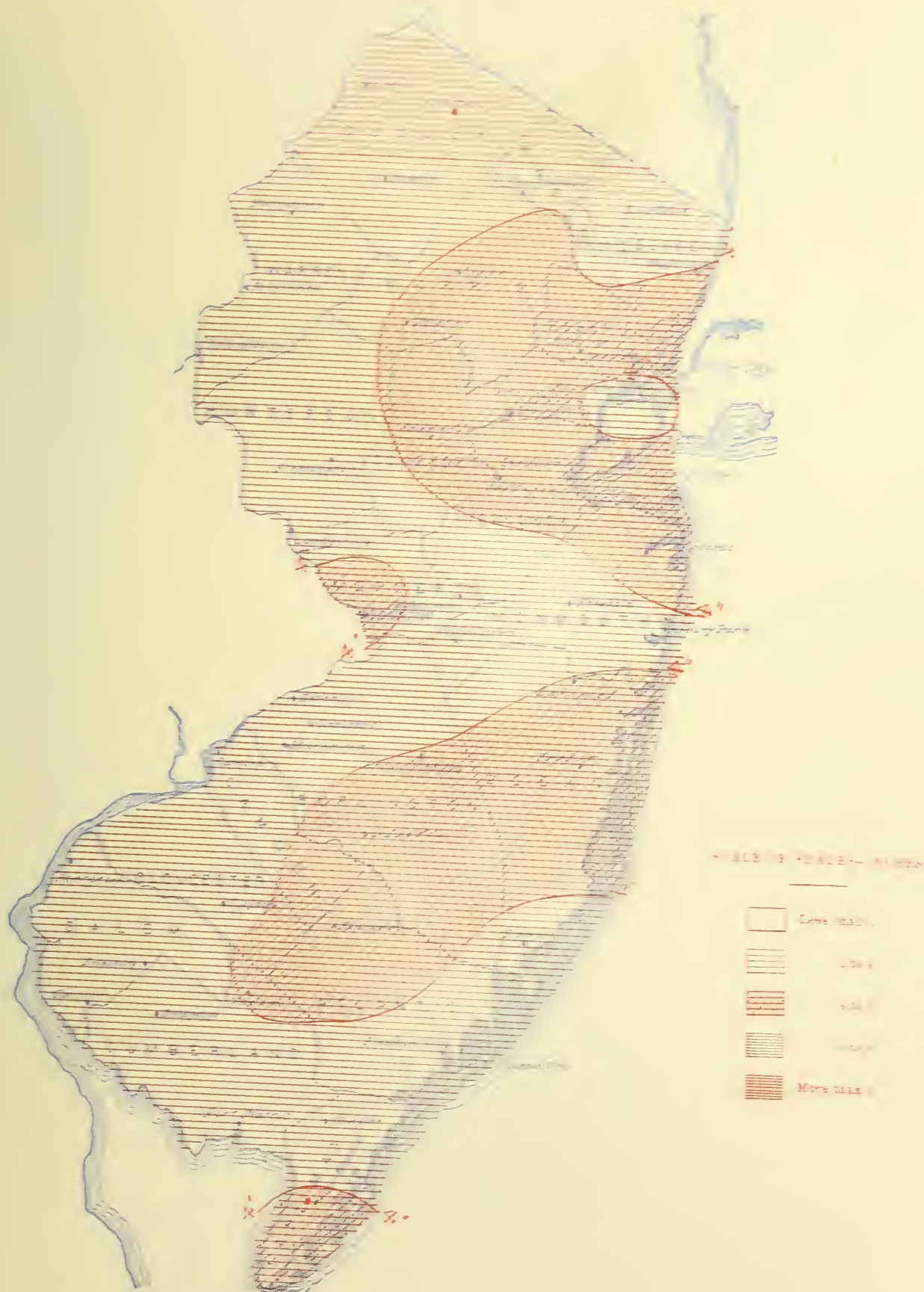
† Not considered in averages.

‡ Published subject to correction.





# Total Monthly Precipitation, January, 1908.



## TOTAL PRECIPITATION FOR JANUARY, 1908.

Stations.	Day of month.																															Total.
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	
THE HIGHLANDS & KITTA-TINNY VALLEY.																																
Layton				.23			.20					.81	.48										.02	.30			.25					2.29
Sussex				.05			.20					1.53	.60										*	.40			.13		T.			2.91
Culver's Lake				.15	.01		.37	.26				.80	.50			T.		T.					T.	.30			.32		.01			2.72
Newton				.12			.82					1.07	.58	T.									*	.33			.23		T.			3.15
Charlotteburg				.14			1.10					1.80											*	.30			.32		T.			3.66
Pompton Plains				.22			*	1.34				1.27	.48										*	.71			.31		T.			4.21
Boonton				.15			*	1.16	T.			1.72											*	.70			.25		.03			4.67
Dover				.24			1.24					1.95											*	.47			.31					4.21
Belvidere				.24			.75		T.			1.12	.67			T.							*	.35			.22					3.35
Phillipsburg				.20	.01		.52	.18				.96	.40	T.									.12	.27			.22		T.			2.88
				.20																												2.88
THE RED SAND STONE PLAIN.																																
Mahwah				.12			1.12					1.16	.54										*	.48		*	.34		.03			3.77
River Vale																																
Paterson				.19			.70	.23	T.			1.42				.04							.01	.57		*	.23	T.	.06			3.45
Englewood				.05			1.23		T.			1.41				.12							.60	.55		.07	.11	.05				4.20
Little Falls				.22			*	1.13	T.			1.90				.04							*	.45		*	.20		.06			4.00
South Orange				.22			1.17		.03			1.62				.12							.20	.50			.10		.10			4.20
Chatham				.31			*	1.15	T.			.70	1.45			.13							*	.40			.30		.03			4.47
Newark				.28			1.04	.02	.02			1.95	.40			.02							.30	.25		.04	.16	.02				4.50
New York, N. Y.				.05			1.13	T.	T.			1.31				.10							.52	.54		.05	.10	.04				3.84
Jersey City				.08			1.03	.05	T.			1.35			T.	.10							.03	1.18		T.	.12	.06				4.03
Bayonne	T.			.12			.90	.05	T.			1.20	T.			.12		T.					.12	1.00			.15	.05				3.74
Bergen Point				.14			.98	.11				1.26	.05			.15							.17	1.35			.18	T.				4.37
Elizabeth				.10			1.2					1.66				.11							*	.60		*	.09	.05				3.82
Plainfield				.06			.88	.27	T.			1.88	.05			.14							.12	.68		T.	.18	.04				4.20
Somerville				.15			.95	.21	T.			1.45	.55			.10							.05	.58			.18	.02				4.28
Flemington				.22			.90	.21	T.	T.		1.14	.43			.09							T.	.30		*	.29					3.75
New Brunswick				.14			.47					1.85				.15							*	1.00			.50	.10				4.22
College Farm				.08			.48	.21				.76	.05			.08							.07	.80			.06					2.67
Rumney				.57			1.37					1.24				.15							*	.82			.18		.13			4.46
Lambertville				.18			1.25	T.				1.14				.07							.14	.74			.14	T.				3.66
THE SOUTHERN INTERIOR.																																
Hightstown				.08			1.14					.93				.16							*	1.00			.18		.03			3.52
Trenton				.40			1.02		T.			1.20				.16							.07	.90			.40	T.	.09			4.30
Imlaystown				.05			1.00		.01			.93				.12							.21	1.30		*	.02					3.73
Burlington				.10			1.03		T.			1.13				.15							*	1.03			.15	.06				3.65
Beverly				.08			1.18	.07				1.53				.14							T.	.86		T.	.08	.06				4.00
Rancocas				.06			.8	T.	T.			1.14	T.			.10							.30	.70		T.	.15	.03				3.28
Brown's Mills				.30			.80					.80	.05			.10							*	1.20			.40	.10				3.75
Moorestown				.07			.90	T.				1.35	T.			.12							.03	1.14			.15	.06				3.91
Philadelphia, Pa.				.08			.87	T.				1.06	T.			.07							.60	.31		.01	.09	.02	T.			3.14
Toms River				.15			1.00		T.			.87				.20							*	2.00		*	.70	.30				5.22
Indian Mills				.14			.90					.92	.16			.10							*	1.58			.25	.07				4.12
Clayton				.20			.70	T.				1.07				.10							*	.80			.54					3.41
Hammononton				T.			1.10	.10				1.00				.03							*	2.02		*	.27	T.				4.52
Tuckerton				.21			1.07					.67	.03			.07							.15	1.00		.05	.42	.14				3.81
Egg Harbor City				.12			1.41					.87	.15			.06							*	1.21		*	.12	.10				4.07
Friesburg				.03			.51	.03				.95				.06							*	.90			.23	.08				2.79
Vineland				.05			1.13	.02				1.13	.02			.01							.09	.90		*	.87	.02				4.27
Canton				.08			.52					.77	T.			.07							*	1.00		*	T.					2.44
Bridgeton				.15			T.					.85	T.			T.							*	1.50		*	.25	.20				2.95
Pleasantville				.14			.85	.09	T.			.66	.01			.01							.37	.33		.01	.12	.04				2.70
Northfield				.06			1.66	.09				.65				.04							.14	.53		*	.30	.08				2.95
Port Norris				.07			.92	.09				.93	T.	T.		T.							.04	.96			T.	.28				3.29
Woodbine																																
Cape May C. H.				.05			1.03	.14				.69	.05			.05							.13	1.35	T.		.51	.09				4.09
THE SEA COAST.																																
Oceanic				.06			1.05	.09	T.			.77				.14							*	1.82		*	.30		.08			4.31
Long Branch				.08			1.00					.65				.15							*	1.60			.51	.12				4.11
Asbury Park				.03			1.00	.12	T.			.60	.01			.08							*	1.38			.26	.15				3.63
Atlantic City				.12			1.03	.07	T.		T.	.60	T.			.04							.29	.65		.08	.16	T.	.09			3.13
Cape May City				.06			.92		T.			.60	.09			.03							1.05	1.20		.05	.20		.07	T.		4.27

‡ Precipitation measured at 8 a. m., 75th meridian time.  
 † Incomplete.

\* Precipitation included in that of following day.

T. Indicates amount too small to measure.

‡ Published



U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR FEBRUARY, 1908

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

---

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF

WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.

WEATHER BUREAU OFFICE

MARCH 20, 1908





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XXI. ATLANTIC CITY, N. J., FEBRUARY, 1908. No. 2.

## GENERAL SUMMARY.

February, 1908, averaged somewhat colder than usual thruout New Jersey. The first decade was abnormally cold, and the remainder of the month alternately cold and mild. There was abundant precipitation in the northern counties, and about the normal amount in the southern portion of the district. The monthly snowfall was heavy in the north, and exceptionally light in the extreme south. The sunshine was ample.

The monthly mean temperature ranged from  $22^{\circ}$ , in the northwestern portion of Sussex County, to  $31^{\circ}$  in Cape May County, and averaged  $1.5^{\circ}$  per day below the normal. The deficiency was greatest in parts of Atlantic, Cape May, Cumberland, Essex, Middlesex and Morris counties, where it ranged from  $2^{\circ}$  to nearly  $4^{\circ}$  per day. The first decade was marked by a deficiency in mean temperature of about  $8^{\circ}$ , the lowest temperatures of the present winter, ranging from  $6^{\circ}$  to  $-17^{\circ}$ , occurring on the 5th and 10th. The second decade was comparatively free from cold weather, the highest temperatures of the month, ranging from  $49^{\circ}$  to  $65^{\circ}$ , being generally reported on the 15th. The temperature during the third decade was variable, with minimum temperatures of zero, or lower, in the mountain districts at intervals. No maximum or minimum temperature records were broken during the month, altho the monthly minimum temperature was the third lowest reported for February in a period of 24 years.

The monthly precipitation was quite uniformly distributed thruout the northern portion of the State, where the February normal was generally exceeded. The greatest monthly amounts, ranging from about 6.50 inches to nearly 7.50 inches, were reported from stations in Bergen, Morris and Passaic counties. The greater part of the central counties received amounts exceeding 5 inches, while over the southern interior and along the southeastern coast the monthly precipitation was generally less than 5 inches, the least amounts, about 3 inches, being reported from stations in Atlantic and Cape May counties. With the exception of the period extending from the 7th to the 12th, inclusive, and the last three days, precipitation occurred frequently during the month. The greatest 24-hour amounts were reported on the 19th, as a rule, altho amounts of more than 1 inch were received at numerous northern stations on the 1st, 15th, and 26th. Warm rains about the middle of the month caused the rapid melting of snow and ice, resulting in freshets.

The monthly snowfall, occurring mostly on the 1st, 5-6th, 19th, and 23d, was greatest over the northern portion of the district, where it ranged from 11 to 24 inches. In the southern counties the snowfall was generally below the normal, portions of Atlantic and Cape May counties receiving less than 4 inches. There were no marked depths of snow on the ground during the month, rapid melting being caused by rains following each snowfall. Moderate depths were reported in the north from the 1st to the 14th, and the 19th to the 26th. The southern interior was generally bare of snow, except from the 5th to the 12th, and the ground in the southeastern coast section was uncovered practically the entire month.

High winds (with southerly to westerly gales on the 1st and 15th) occurred frequently, but the month was free from severe northeast storms.

## TEMPERATURE.

The monthly mean,  $28.1^{\circ}$ , was  $1.5^{\circ}$  below the normal. The mean maximum was  $37.0^{\circ}$ , the mean minimum  $19.2^{\circ}$ , and the mean daily range  $17.8^{\circ}$ .

The means for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley,  $24.2^{\circ}$ ,  $-1.3^{\circ}$ ; Red Sand Stone Plain,  $27.6^{\circ}$ ,  $-1.5^{\circ}$ ; Southern Interior,  $30.1^{\circ}$ ,  $-1.4^{\circ}$ ; Sea Coast,  $30.1^{\circ}$ ,  $-2.2^{\circ}$ .

The highest monthly mean was  $31.4^{\circ}$ , at Cape May Court House, and the lowest,  $22.0^{\circ}$ , at Layton, the range of monthly mean temperature being  $9.4^{\circ}$ .

The highest temperature,  $65^{\circ}$ , occurred at Brown's Mills, on the 15th, and the lowest,  $-17^{\circ}$ , at Layton, on the 10th.

The greatest local monthly range,  $73^{\circ}$ , occurred at Layton, and the least,  $43^{\circ}$ , at Atlantic City.

The greatest daily range,  $49^{\circ}$ , occurred at Belvidere and Layton, on the 11th.

## PRECIPITATION.

The average, 4.79 inches, was 0.92 of an inch above the normal, the averages for the various districts, with the departures from the normal, being as follows: The Highlands and Kittatinny Valley, 5.86 inches,  $+2.18$  inches; Red Sand Stone Plain, 5.62 inches,  $+1.39$  inches; Southern Interior, 3.90 inches,  $+0.17$  inch; Sea Coast, 3.80 inches,  $+0.10$  inch.

The greatest amount, 7.44 inches, occurred at Charlotteburg, and the least, 2.85 inches, at Cape May.

The greatest amount in 24 hours, 2.20 inches, occurred at Charlotteburg, on the 26th.

No excessive precipitation occurred during the month.

The average snowfall, unmelted, was 11.9 inches, the averages for the various districts being as follows: The Highlands and Kittatinny Valley, 19.1 inches; Red Sand Stone Plain, 16.0 inches; Southern Interior, 6.4 inches; Sea Coast, 7.3 inches. The greatest monthly snowfall, 24.0 inches, occurred at Culver's Lake and Englewood. The greatest 24-hour amount was 10.0 inches, at Englewood, on the 6th.

Measurable precipitation occurred on an average of 9 days.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 10; partly cloudy, 10;

cloudy, 9. The duration of sunshine was nearly normal, the percentage of the possible amount being 59, at Atlantic City, and 57 (estimated) at Jersey City.

#### WIND.

Northwest winds prevailed. High winds were reported on the 1st, 2d, 5th, 6th, 7th, 8th, 13th, 14th, 15th, 19th, 26th, and 28th. The following maximum velocities (for 5-minute periods) were reported: Atlantic City, 43 miles per hour, from the southeast, on the 1st; Cape May, 48 miles per hour, from the south, on the 15th; Jersey City, 53 miles per hour, from the west, on the 1st.

#### MISCELLANEOUS PHENOMENA.

*Sleet*.—Asbury Park, 6th; Culver's Lake, 19th.

*Halos, lunar*.—Canton, 9th; Paterson, Trenton, 16th.

*Thunderstorms* (dates and number of reports).—None.

*Rainbows*.—Layton, Paterson, Toms River, 15th; Moores-town, 19th.

*Halos, solar*.—Atlantic City, 3d, 10th, 12th, 21st; Burlington, 25th; Inlaystown, Jersey City, 10th; Indian Mills, 21st; Rancocas, 7th, 10th, 21st; Somerville, 23d; Toms River, 6th; Vineland, 8th, 10th.

*Fog*.—Asbury Park, Clayton, Hammonton, 14th; Atlantic City, 13th, 14th, 15th; Bayome, Jersey City, 6th, 13th, 14th, 19th; Burlington, Canton, Haddonfield, Hightstown, Oceanic, Rancocas, Somerville, Trenton, Vineland, 13th, 14th; Cape May, 6th, 13th, 14th, 15th, 19th; Culver's Lake, 13th, 15th; Moores-town, Phillipsburg, Toms River, 13th; Paterson, 15th; Plainfield, 14th, 15th.

#### DELAYED REPORT.

January, 1908, Woodbine.—Mean temperature, 33.4°, departure from the normal, +1.3°; highest, 59°, 22d, lowest, 22°, 4th; greatest daily range, 31°. Total precipitation, 4.40 inches, departure from the normal, +1.36 inches; greatest in 24 hours, 1.70 inches; total snowfall, 17.0 inches. Number of rainy days 7, clear 11, partly cloudy 11, cloudy 9; prevailing wind direction west.

#### TEMPERATURE DATA FOR PATERSON, PASSAIC COUNTY, N. J.

(Continued from January, 1908, Report.)

#### MONTHLY EXTREMES OF TEMPERATURE, 1885-1907.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Max .....	67	66	81	98	102	102	102	100	98	90	79	67
Min. ....	-6	-4	4	22	31	42	51	48	34	25	12	3

Highest temperature, 102°; lowest, -6°. (It would appear, from the Final Report of the State Geologist, Vol. I, 1888, page 390, that a minimum temperature of -14° occurred at Paterson in January of some year previous to 1888, the precise year not being given.)

Dates of maximum temperature 100°, or higher: 102°, May 31 and June 1, 1895, July 3, 1898, June 6, 1899, July 1 and 2, 1901; 101°, June 20, 1893, July 17, 1900; 100°, July 4, 1898, June 5, 1899, August 7 and 11, 1900.

Dates with minimum temperature below zero: -6°, January 5, 1904; -5°, January 6, 1904; -4°, January 12, 1886, February 10 and 11, 1899; -2°, February 17, 1896, January 2, 1899; -1°, February 6, 1895.

Number of years, 1886-1907, with maximum temperature 100°, or higher, 6; with minimum temperature zero, or below, 6.

Lowest annual maximum temperature, 94°, 1886; highest annual minimum, 10°, 1891.

Highest annual mean, 54.6°, 1900; lowest, 48.0°, 1868; range of annual mean temperature, 6.6°.

Highest monthly mean, 77.7°, July, 1887; lowest, 21.1°, February, 1868 (21.2°, January, 1867); range of monthly mean temperature, 56.6°.

Average annual range of temperature, 96°; greatest annual range, 106°, 1899; least, 87°, 1902.

Greatest monthly range, 72°, April, 1896; least, 30°, July, 1886.

Average temperature for spring, 50°; summer, 72°; autumn, 55°; winter, 31°.

Average temperature for the warmest spring, 1903, 56°; for the warmest summer, 1900, 75°; for the warmest autumn, 1900, 60°; for the mildest winter, 1891-2, 36°.

Average temperature for the coldest spring, 1883, 45°; for the coolest summer, 1903, 69°; for the coolest autumn, 1869, 50°; for the coldest winter, 1867-8, 24°.

Average date of last killing frost in spring, April 21; of first killing frost in autumn, October 19; average length of the growing season, 180 days.

Earliest date on which first killing frost occurred in autumn (record for 16 years), September 22 (1904); latest date of killing frost in spring (record for 15 years), May 17 (1895).

#### COMPARATIVE STATE DATA FOR FEBRUARY.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1885.....	24.6	54	-2	3.94
1886.....	28.5	64	-10	5.50
1887.....	33.9	69	4	5.24
1888.....	30.6	60	-5	3.53
1889.....	27.7	57	-3	2.49
1890.....	39.9	76	14	4.17
1891.....	38.0	71	1	5.11
1892.....	33.6	58	7	1.63
1893.....	30.1	63	-1	5.73
1894.....	29.7	62	-11	4.42
1895.....	23.6	57	-12	1.28
1896.....	32.1	62	-12	6.77
1897.....	32.5	59	-6	3.61
1898.....	32.7	65	-15	3.48
1899.....	25.8	60	-17	6.06
1900.....	31.0	69	-6	5.30
1901.....	25.4	52	-6	0.94
1902.....	27.4	62	-7	6.24
1903.....	33.7	70	-16	4.87
1904.....	24.8	65	-16	2.45
1905.....	23.4	57	-18	2.53
1906.....	30.9	64	-12	2.58
1907.....	23.6	55	-22	2.67
1908.....	28.1	65	-17	4.79



## CLIMATOLOGICAL DATA FOR FEBRUARY, 1908.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing direction of wind.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.			Number cloudy days.
THE HIGHLANDS & KITTATINNY VAL.																				
Layton	Sussex	550	9	22.0	.....	56	15	-17	10	49	4.50	+2.07	1.32	22.0	8	9	12	8	nw.	Warren C. Hursh.
Sussex	do	442	14	24.0	-0.9	60	15	-10	10	39	4.41	+1.21	1.20	15.5	8	9	14	6	w.	Prof. W. H. Seeley.
Culver's Lake	do	848	7	.....	.....	.....	.....	-11	5	.....	4.88	+2.61	1.61	24.0	11	10	12	7	w.	B. E. Riker.
Newton	do	678	28	23.6	-1.7	57	15	-10	5	48	4.95	+1.26	1.23	17.0	9	10	10	9	nw.	B. H. Kienbaum.
Charlotteburg	Passaic	719	16	23.6	-1.4	54	*14	-8	*5	48	7.44	+3.05	2.20	16.2	8	10	11	8	w.	G. S. Briggs.
Pompton Plains	Morris	195	6	.....	.....	.....	.....	.....	.....	.....	6.97	.....	1.84	20.0	10	.....	.....	.....	n.	River & Flood Service.
Boonton	do	413	11	.....	.....	.....	.....	.....	.....	.....	6.73	+2.29	1.58	21.8	10	.....	.....	.....	nw.	River & Flood Service.
Dover (b)	do	575	24	23.4	-2.6	54	15	-4	5	.....	7.40	+3.40	1.90	23.7	9	5	17	7	.....	William C. Harris.
Belvidere	Warren	289	18	26.2	-0.1	58	15	-4	5	49	5.94	+2.07	1.40	16.0	8	10	11	8	.....	Samuel J. Hixson.
Phillipsburg	do	196	6	26.8	-1.0	58	15	-3	5	40	5.37	+2.01	1.22	15.1	10	10	10	9	nw.	D. W. Smith.
THE RED SAND STONE PLAIN.																				
Mahwah	Bergen	70	6	.....	.....	.....	.....	.....	.....	.....	7.29	.....	1.81	17.3	10	.....	.....	.....	w.	River & Flood Service.
River Vale	do	70	17	25.2	-0.9	55	15	-11	10	47	6.40	+2.00	1.20	20.0	9	11	10	8	nw.	G. S. M. Holdrum.
Paterson	Passaic	110	32	28.2	-1.9	57	15	-2	5	38	6.73	+2.33	1.92	19.8	10	8	13	8	nw.	H. A. Probert
Englewood	Bergen	135	18	27.3	-1.4	56	15	0	5	33	5.93	+1.49	2.19	24.0	11	14	6	9	nw.	William C. Tucker.
Little Falls	Passaic	175	6	.....	.....	.....	.....	.....	.....	.....	6.86	.....	1.76	22.0	10	.....	.....	.....	nw.	River & Flood Service.
South Orange	Essex	200	39	26.6	-2.3	57	15	-2	5	35	5.47	+1.42	1.67	18.0	9	13	6	10	nw.	W. J. Chandler, M. D.
Chatham	Morris	234	6	.....	.....	.....	.....	.....	.....	.....	5.88	.....	1.59	12.6	8	.....	.....	.....	w.	River & Flood Service.
Newark	Essex	140	66	28.0	-0.1	58	15	-2	5	35	3.98	+0.34	1.20	14.4	11	6	11	12	nw.	Wm. Wiener.
New York, N. Y.	New York	314	38	28.1	-2.6	56	15	1	5	30	5.36	+1.62	2.03	13.7	11	11	10	8	nw.	U. S. Weather Bureau.
Jersey City	Hudson	15	3	28.6	.....	55	15	1	5	28	5.44	.....	1.94	13.9	11	7	12	10	nw.	Samuel K. Pearson, Jr.
Bayonne	do	50	18	27.6	-1.4	57	15	-1	5	30	4.62	+0.89	1.88	14.5	10	13	7	9	w.	John H. Eadie.
Bergen Point (t)	do	37	11	28.2	.....	57	15	0	5	30	5.92	+2.04	2.19	15.2	10	10	10	9	nw.	Dr. W. H. Mitchell.
Elizabeth	Union	33	29	28.8	-1.5	58	15	0	5	28	4.04	-0.24	1.47	12.5	10	9	10	10	.....	W. M. Oliver.
Plainfield	do	100	18	27.0	-1.5	58	15	-2	5	36	5.75	+1.71	1.64	17.0	10	10	10	9	nw.	John Neagle.
Somerville	Somerset	76	29	28.0	-0.4	59	15	-1	*5	40	5.78	+1.95	1.60	13.5	10	9	13	7	nw.	Peter Hardcastle.
Flemington (t)	Hunterdon	187	11	27.8	.....	60	15	-5	10	45	5.15	+1.72	1.23	12.5	9	10	10	9	w.	H. E. Deats.
New Brunswick	Middlesex	61	55	27.3	-3.9	58	15	-2	5	31	5.10	+1.47	1.50	15.5	10	12	11	6	w.	Wm. T. Woerner.
College Farm (c)	do	100	13	27.2	-0.6	60	15	-5	5	37	3.30	-0.18	1.02	10.8	8	10	10	9	nw.	George G. Manning.
Runyon	do	18	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	nw.	J. H. Cottrell.
Lambertville	Hunterdon	95	22	28.6	-1.4	62	15	0	5	39	5.04	+1.76	1.23	12.0	8	11	11	7	nw.	William R. Bowne.
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	17	28.6	-0.1	58	15	0	5	30	3.62	+0.42	1.31	9.5	7	14	4	11	nw.	Ernst Wenger.
Trenton	do	60	39	30.6	-0.7	60	15	-1	5	32	5.12	+1.66	1.20	10.0	9	10	12	7	nw.	E. R. Cook.
Imlaystown (t) (f)	Monmouth	106	22	27.9	-2.8	59	15	0	5	33	.....	.....	1.43	6.2	.....	.....	.....	.....	nw.	F. C. Price, M. D.
Burlington	Burlington	12	16	.....	.....	.....	.....	.....	.....	.....	4.22	+0.85	1.12	11.0	9	10	10	9	nw.	D. S. B. McCoy.
Rancocas	do	68	23	.....	.....	55	15	2	*5	.....	4.55	+0.90	1.12	12.0	11	10	8	11	nw.	Spencer Haines.
Brown's Mills (f)	do	71	2	28.6	.....	65	15	-2	10	38	4.58	.....	1.30	4.5	9	.....	.....	.....	nw.	M. W. Hargrove.
Moorestown	do	71	44	29.4	-1.4	61	15	1	*5	32	4.07	+0.47	1.08	9.7	10	10	10	9	nw.	John C. Beans.
Philadelphia, Pa.	Philadelphia	117	38	31.2	-1.6	63	15	5	5	27	3.21	-0.17	0.98	10.5	10	9	13	7	nw.	U. S. Weather Bureau.
Haddonfield	Ocean	33	17	27.7	-1.9	55	15	0	5	38	3.03	-1.43	0.98	5.0	9	10	9	10	nw.	F. G. Bunnell.
Indian Mills	Camden	75	.....	30.4	.....	61	15	4	*5	35	3.21	.....	1.05	6.8	10	11	10	8	nw.	C. F. Richardson.
Clayton	Burlington	76	8	30.3	.....	59	15	2	*5	40	4.27	+0.41	1.08	8.0	9	14	9	6	nw.	James Armstrong.
Hammononton	Gloucester	126	12	29.8	.....	61	15	3	5	32	5.09	+1.37	1.28	7.5	8	11	8	10	nw.	Wm. T. Farley.
Tuckerton	Atlantic	80	11	.....	.....	.....	.....	.....	.....	.....	3.78	-0.14	1.19	4.0	9	9	12	8	nw.	Orville Bassett.
Egg Harbor City	Ocean	23	11	30.2	.....	51	15	3	5	37	3.61	-0.05	1.16	6.0	10	12	11	6	nw.	F. R. Austin.
Friesburg	Atlantic	63	19	.....	.....	60	14	0	5	.....	3.64	-0.59	1.16	2.6	7	14	6	9	nw.	Charles Saahmann.
Vineland	Salem	100	16	29.9	.....	64	15	1	9	29	3.54	-0.30	1.03	7.0	9	8	14	7	w.	H. C. Perry.
Canton	Cumberland	118	41	30.3	-2.0	58	*14	3	*5	30	4.34	+0.31	1.40	5.0	10	13	7	9	nw.	Alfred Chalmers.
Bridgeton	Salem	24	7	.....	.....	.....	.....	.....	.....	.....	3.74	+0.69	1.13	5.7	10	11	12	6	nw.	J. H. Maskell.
Pleasantville (t)	Cumberland	30	33	30.8	-3.4	62	15	3	9	29	3.66	-0.51	1.00	8.0	9	14	4	11	w.	Henry A. Jorden.
Northfield	Atlantic	26	11	.....	.....	.....	.....	.....	.....	.....	1.58	-1.53	0.57	1.7	11	13	5	11	.....	L. Van Gilder.
Port Norris	do	.....	.....	.....	.....	.....	.....	.....	.....	.....	3.01	.....	0.99	5.3	10	.....	.....	.....	.....	Wm. L. Flick.
Woodbine	Cumberland	8	.....	.....	.....	.....	.....	.....	.....	.....	4.10	.....	1.28	4.0	10	.....	.....	.....	.....	J. H. Barraclough.
Cape May	Cape May	43	17	31.0	.....	57	15	4	5	26	3.39	-0.71	1.10	1.7	8	10	11	8	w.	R. D. Maltby.
Cape May C. H.	do	19	21	31.4	-2.1	52	15	5	5	28	3.71	-0.09	0.97	4.6	8	7	11	11	nw.	L. T. Garretson.
THE SEA COAST.																				
Oceanic	Monmouth	16	22	29.8	-1.7	56	15	5	5	34	4.69	+0.80	1.40	10.0	9	13	6	10	nw.	Prof. C. E. Dietz.
Long Branch	do	30	.....	29.6	.....	54	15	4	5	34	4.32	.....	1.33	12.0	8	15	8	6	nw.	B. B. Bobbitt.
Asbury Park	do	22	20	29.6	-1.4	53	15	4	5	31	4.18	+0.38	1.05	8.5	9	13	7	9	w.	B. H. Obert.
Atlantic City	Atlantic	16	35	30.1	-2.9	49	15	6	5	28	2.94	-0.33	1.06	2.8	10	8	9	12	nw.	Section Center.
Cape May City	Cape May	17	24	31.2	-2.9	50	15	6	5	32	2.85	-0.44	0.77	3.4	11	7	15	7	nw.	U. S. Weather Bureau.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

† Not considered in averages.

‡ Published subject to correction.





# Total Monthly Precipitation, February, 1908.



## TOTAL PRECIPITATION FOR FEBRUARY, 1908.

Stations.	Day of month.																															Total.
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	
THE HIGHLANDS & KITTA-TINNY VALLEY.																																
Layton	.91				*	.75							.17	*	1.32				.80				.10									4.50
Sussex	.84				*	.60							T.	.02	1.11				.60				.05				1.20					4.41
Culver's Lake	1.00	.01		.01		.50							.17	.06	1.61	T.	T.		.62	.02		T.	.05				1.83					4.88
Newton	.79	T.				.70							.14	.06	.89				1.23				.04				1.10					4.95
Charlotteburg	1.90				.75								.20	*	1.17				1.10				.12				2.20					7.44
Pompton Plains	1.84				*	.96							.15	*	1.07				1.33				.06				1.54					6.97
Boonton	1.58	T.			*	.94							.17	*	.90				1.53				.08		*		1.53					6.73
Dover	1.90				.30	.50							.75	*	1.02				1.02				.20				1.71					7.40
Belvidere	1.29				*	.77							.22	...	1.03				1.23				T.		*		1.40					5.94
Phillipsburg	1.10		T.	T.	.10	.26							.20	.04	1.00		T.		1.11				.04		*		1.22					5.37
THE RED SAND STONE PLAIN.																																
Mahwah	1.66				*	.92							.13	*	1.17				1.50				.10		*		1.81					7.29
River Vale	1.20				*	.90							*	*	2.10				1.20				.10		*		.90					6.40
Paterson	1.63	T.	T.		*	1.04	T.						.15	.03	.76				1.92				.03		*		1.17					6.73
Englewood	1.09	.01			.40	1.00						T.	.07	.08	.31	T.			2.19	T.			.05		.05		.68					5.93
Little Falls	1.76	T.	T.		*	1.03							.19	*	.74				1.67				.05		*		1.42					6.86
South Orange	1.24	T.			.40	.35							.12	.18	.47				1.67				.02		T.		1.02					5.47
Chatham	1.59		T.			.40									.80				1.50				.04		*		1.55					5.88
Newark	1.03	.02			.25	.36							.10	.14	.39				1.20				.02		.10		.37					3.98
New York, N. Y.	1.12	.02	T.		.38	.56						T.	.09	.10	.27	T.			2.03	T.			.03		.04		.72					5.36
Jersey City	1.08	.02	T.	T.	.15	.86							.12	.02	.40	T.			1.04	T.			.01		*		*					5.44
Bayonne	.72	T.			.12	.68							.16	.01	.49	T.			1.88				.03	T.	*		.53			T.		4.62
Bergen Point					*								*	*	.36				1.47				.15		*		.71					4.04
Elizabeth	.80				.20	1.04							.18	.05	.52	T.	T.		1.64	T.		T.	.05		*		1.02		T.			5.75
Plainfield	1.05				.05	.80							.20	.03	.67	T.	T.		1.60				.05		*		1.18					5.78
Somerville	1.20				.05																											
Flemington					*																					*						
New Brunswick	1.15		T.		*	.80							.15		.53		.05		1.50				.10		*		.82					5.10
College Farm	.49				*	.90							.11		.24	T.			1.02				.03				.51					3.30
Runyon	1.18			T.	*	.81	T.						.24		.40		T.		1.23				.04				1.14		T.			5.04
Lambertville																																
THE SOUTHERN INTERIOR.																																
Hightstown	.55			T.	.45								.30	.10	.26		T.		1.31				T.				.65		T.			3.66
Trenton	.88		T.		*	.96							.23	...	.64	T.			1.20	T.			.20		*		1.01					5.11
Inlaystown	1.43		T.		*	.95							.12	*	.33		.01		.73	T.		T.				*						4.2
Burlington	.73		T.		*	.77							.31	.11	.24				1.12	T.			.05		.25		.64					4.2
Rancocas	.85				*	.95							.30	.05	.25	T.	T.		1.12	.03		T.	.05		*		.95		T.			4.51
Brown's Mills	.80				*	.90							.48	...	.35				1.30	.40			.05		*		.70					4.51
Moorestown	.68		T.		.04	.87							.22	.04	.25		T.		1.08	.02		T.	.04		*		.83					4.0
Philadelphia, Pa.	.50		T.		.45	.23							.30	.05	.15	T.			.98	T.		T.	.02		.07		.46					3.2
Toms River	.60				.25	.20							.40	...	.20		T.		.98	.10			.10		*		.60					3.0
Haddonfield	.42		T.		.05	.30							.27	.01	.20		T.		1.05	.02		T.	.04				.85					3.2
Indian Mills	.65			T.	*	.72							.28	...	.28		.03		1.08	.40			.02		*		.81		T.			4.2
Clayton	.87				T.	.70							.25	T.	.87		T.		1.28	.18		T.					.85					5.0
Hammonon	.74		T.		*	.52							.30	...	.21		T.		1.19	.11		T.	T.		*		.71		T.			3.7
Tuckerton	.43				*	.81							.25	.07	.21				1.16	.13					*		.55					3.6
Egg Harbor City	.89				*	.55							.27	...	.22				1.16	T.						*		.55				3.6
Friesburg	.60				*	.50							.26	.03	.33				1.03	.10		T.					.60					3.6
Vineland	.78				.08	.76							.20	.02	.26		T.		1.40	.04		T.	.01				.79		T.			4.1
Canton	.75				*	.66							.24	...	.20		.02		1.13	.02			.01				.71					3.6
Bridgeton																										*						
Pleasantville	.20		T.		.04	.20							.18	...	.11		.01		.57	.04			.01		*		.22					1.4
Northfield	.33				.01	.56							.22	.01	.21		.02		.99	.05							.61					3.0
Port Norris	.72				.05	.70							.18	.04	.26				1.28	.05		T.	.02				.80		T.			4.1
Woodbine	.80				*	.63									.13		.02		*	1.10							.71					3.0
Cape May C. H.	.48			T.	.97								.36	.04	.22				.80	.13		T.					.71		T.			3.0
THE SEA COAST.																																
Oceanic	.95	T.	T.		.05	.92							.18	.10	.41				1.40	.09		T.	T.				.59		T.			4.1
Long Branch	.77		T.		*	.72							.23	...	.63				1.33	T.			.10				.54		T.			4.1
Asbury Park	.64			T.	.05	.95							.22	...	.09				1.05	.12			.05				.51		T.			4.1
Atlantic City	.27				.28	.28							.29	...	.28		.02		1.06	.05		T.			.03		.38					2.1
Cape May City	.38			T.	.30	.26							.26	.02	.22		T.		.77	.02			.02				.55					2.2



U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR MARCH, 1908

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

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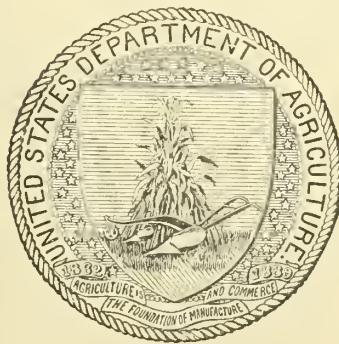
WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.

WEATHER BUREAU OFFICE

APRIL 21, 1908

Monthly Mean Isotherms and Prevailing Winds, March, 1908.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XXI. ATLANTIC CITY, N. J., MARCH, 1908. No. 3.

## GENERAL SUMMARY.

March, 1908, was characterized by generally mild and favorable weather. There were no zero temperatures or damaging storms during the month. The precipitation was considerably below the normal, the district average being the smallest reported for March since 1897. As a whole the month was exceptionally favorable for the successful pursuit of the usual outdoor work of the season. There was ample sunshine.

The mean temperature, ranging from 36° to 46°, was above the normal in all parts of the State, the average daily excess being nearly 3°. The excess was most pronounced in parts of Burlington, Cumberland, Hunterdon, Union and Warren counties, where it ranged from 4° to slightly more than 5°. In portions of Bergen and Sussex counties, in the north, the departures of daily mean temperature from the normal were not so marked, the excess being less than 1°. The first decade was seasonably cold, the lowest temperature of the month occurring for the most part on the 1st and 5th. A second period of moderately cold weather prevailed from the 17th to the 21st, inclusive. Periods of unseasonably warm weather occurred in both the second and third decades, namely, from the 11th to the 15th, inclusive, and from the 22d to the 29th, inclusive, the highest temperatures of the month being generally reported on the 27th. At several stations in the interior the maximum temperatures on the last-named date exceeded the March records of former years, the monthly maximum temperature (89°) being the highest reported for this month in a period of 24 years.

Altho precipitation occurred frequently during the month (mostly on the 1st-2d, 6th, 8-9th, 15th, 18-19th, 23d, 28-29th, and 31st), the amounts were light as a rule, particularly in the southern part of the district. Except over limited portions of Bergen and Mercer counties, where amounts exceeding 4 inches were received, the monthly precipitation was generally less than 3.50 inches, the extreme southern counties receiving less than 2 inches. As compared with the normal, there was a deficiency thruout the State, with the exception of the western part of Mercer County, where a slight excess occurred. The most decided departures from the normal occurred over portions of Atlantic, Cape May, Cumberland, Passaic, Salem and Union counties, where the monthly amounts were generally less than 10 per cent of the normal. The snowfall during the month, occurring on the 1st, 6th, and 18th, was unusually light, and the depths on the ground disappeared rapidly.

## TEMPERATURE.

The monthly mean, 41.8°, was 2.9° above the normal. The mean maximum was 51.1°, the mean minimum 32.5°, and the mean daily range 18.6°.

The means for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley, 38.3°, +2.4°; Red Sand Stone Plain, 41.2°, +2.8°; Southern Interior, 44.0°, +3.3°; Sea Coast, 42.4°, +2.7°.

The highest monthly mean was 46.2°, at Bridgeton, and the lowest, 36.0°, at Layton, the range of monthly mean temperature being 10.2°.

The highest temperature, 89°, occurred at Brown's Mills, on the 27th, and the lowest, 7°, at Layton, on the 1st, the range within the State being 82°.

The greatest local monthly range, 79°, occurred at Brown's Mills, and the least, 38°, at Cape May.

The greatest daily range, 48°, occurred at Brown's Mills, on the 26th.

## PRECIPITATION.

The average, 2.80 inches, was 1.26 inches below the normal, the averages for the various districts, with the departures from the normal, being as follows: The Highlands and Kittatinny Valley, 3.07 inches, —0.80 inch; Red Sand Stone Plain, 2.89 inches, —1.37 inches; Southern Interior, 2.66 inches, —1.26 inches; Sea Coast, 2.59 inches, —1.63 inches.

The greatest amount, 4.92 inches, occurred at Trenton, and the least, 1.06 inches, at Pleasantville.

The greatest amount in 24 hours, 1.57 inches, occurred at Trenton, on the 18-19th.

No excessive precipitation occurred during the month.

The average snowfall, unmelted, was 3.5 inches, the averages for the various districts being as follows: The Highlands and Kittatinny Valley, 5.7 inches; Red Sand Stone Plain, 3.9 inches; Southern Interior, 2.4 inches; Sea Coast, 2.7 inches. The greatest monthly snowfall, 7.5 inches, occurred at Culver's Lake; the greatest 24-hour amount was 5.0 inches, at River Vale, on the 6th.

Measurable precipitation occurred on an average of 12 days.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 11; partly cloudy, 9; cloudy, 11. The duration of sunshine was nearly normal, the percentage of the possible amount being 58, at Atlantic City, and 51 (estimated) at Jersey City.

## WIND.

Northwest winds prevailed. Brisk to high winds were reported on the 11th, 15th, 16th, 19th, 21st, 22d, 26th, 29th, 30th. The following maximum velocities (for 5-minute periods) were reported: Atlantic City, 26 miles per hour, from the south, on the 15th; Cape May, 30 miles per hour, from the northwest, on the 19th.

## MISCELLANEOUS PHENOMENA.

*Halos, lunar.*—Reported from numerous stations on the 9th to 17th, inclusive, and the 19th, 20th.

*Hail.*—Bergen Point, Brown's Mills, Clayton, Haddonfield,

Hammonton, Moorestown, Rancocas, Toms River, 18th.

*Halos, solar.*—Atlantic City, Burlington, 26th; Bayonne, Newark, 5th; Indian Mills, 30th; Jersey City, 5th, 15th; Moorestown, 24th; Rancocas, 13th, 30th. ("Sun dogs" were observed at several stations, on the 5th.)

*Auroras.*—Moorestown, 26th; Asbury Park, Bayonne, Bergen Point, Charlotteburg, Egg Harbor City, Moorestown, Newark, New Brunswick, Oceanic, Paterson, Toms River, 27th.

*Thunderstorms* (dates and number of reports).—6th, 3; 7th, 1; 13th, 3; 14th, 3; 15th, 24; 18th, 21; 19th, 18; 28th, 1. Thunderstorms occurred at Weather Bureau stations as follows: Atlantic City, 18th.

*Sleet.*—Asbury Park, Bergen Point, Burlington, Canton, Clayton, Haddonfield, Hammonton, Hightstown, Indian Mills, Long Branch, Oceanic, Phillipsburg, Toms River, 1st; Bayonne, Newark, 1st, 18th; Charlotteburg, 18th; Culver's Lake, 2d, 18th; Englewood, 1st, 6th, 8th, 17th, 18th; Jersey City, 1st, 8th, 17th, 18th; Moorestown, 1st, 2d, 6th, 9th; Paterson, 1st, 6th, 18th; Rancocas, 1st, 6th, 9th; Somerville, 1st, 2d.

*Fog.*—Asbury Park, Burlington, 23d; Atlantic City, 1st, 6th, 7th, 18th, 19th, 23d; Bayonne, 2d, 18th, 23d; Bergen Point, 2d, 18th, 23d, 31st; Cape May, 1st, 6th, 7th, 18th, 23d, 24th; Culver's Lake, Jersey City, 2d, 23d, 29th; Englewood, 2d, 23d; Haddonfield, 2d, 6th; Hammonton, 6th; Hightstown, Oceanic, Paterson, Toms River, 2d; Indian Mills, 2d, 19th; Moorestown, 17th; Plainfield, 18th; Rancocas, 2d, 8th; Somerville, Tuckerton, 2d, 18th; Trenton, 2d, 7th; Vineland, 6th, 18th.

#### PRECIPITATION DATA FOR PATERSON, PASSAIC COUNTY, N. J.

##### MONTHLY AND ANNUAL PRECIPITATION.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1891.	8.02*	4.21	.....	3.10	3.76	.....	.....	3.38	2.30	2.14	3.04	5.18	.....
1892.	5.93	1.12	5.60	1.87	6.06	3.68	3.88	4.96	2.11	0.77†	6.77*	1.65	44.40
1893.	3.66	7.51	3.86	5.44	5.16	2.24	1.71	7.43	2.96	5.86	3.85	4.54	54.19
1894.	2.78	4.78	1.65†	2.52	3.76	1.94	1.55†	2.15†	10.41*	5.38	3.88	4.49	45.29
1895.	5.50	1.24	2.42	4.58	1.88	3.98	4.43	4.37	0.97†	5.21	3.27	3.77	141.42
1896.	0.84†	8.09	6.84	1.09†	3.75	2.91	4.88	2.39	4.36	1.81	3.44	1.48†	43.93
1897.	3.46	3.55	3.16	3.27	6.92	4.91	9.98*	7.59	2.82	1.82	4.88	5.06	56.32
1898.	4.81	5.45	3.47	3.79	7.44*	2.34	3.70	4.57	1.48	6.23	6.74	4.01	54.03
1899.	4.61	5.53	7.49*	2.45	1.61	2.53	6.05	2.79	6.05	2.28	2.49	2.82	46.72
1900.	4.85	7.58*	4.92	1.89	6.02	4.72	3.44	2.21	2.48	4.43	4.77	2.62	49.68
1901.	2.21	6.02†	6.13	6.69*	7.34	1.91†	9.86	10.62	2.18	3.19	1.58	8.24	61.17
1902.	3.01	8.15*	5.79	3.99	3.37	6.23	2.97	6.10	7.15	5.61	1.09†	8.33*	62.81
1903.	5.04	4.99	5.40	4.51	0.74†	11.17*	5.49	10.86*	2.88	10.19*	1.32	4.21	*72.71
1904.	3.91	2.90	3.85	4.19	3.07	2.06	4.32	6.21	3.59	4.39	1.69	2.59	43.58
1905.	5.03	2.54	4.22	2.66	1.43	3.83	5.17	4.81	6.24	3.10	1.98	4.23	45.24
1906.	2.67	3.49	5.91	5.49	3.73	3.23	5.71	4.62	1.82	4.61	1.31	4.83	47.45
1907.	3.47	2.76	3.05	3.78	3.72	3.36	3.29	10.33	5.80	5.27	5.51	5.20	52.20
M'ns	4.16	4.40	4.61	3.61	4.10	3.71	4.76	5.28	4.12	4.64	3.37	4.38	51.14

\* Greatest on record.

† Least on record.

Greatest annual amount, 72.71 inches, 1903; least, 41.42 inches, 1895.

Number of years (1892-1907) with precipitation less than 50 inches, 9; 50 to 60 inches, 4; more than 60 inches, 3.

Greatest monthly amount, 16.19 inches, October, 1903; least, 0.74 of an inch, May, 1903.

Number of months with precipitation more than 10 inches, 5; less than 1 inch, 5.

Number of times in 201 months that the precipitation has exceeded the monthly normal: January, 8; February, 8; March, 8; April, 8; May, 6; June, 5; July, 7; August, 6; September, 6; October, 7; November, 8; December, 8; total, 85.

Excessive precipitation (2.50 inches, or more, in 24 hours, or less: November 15-16, 1892, 2.89 inches; August 23-24, 1893, 4.23 inches; October 23-24, 1893, 2.78 inches; September 19, 1894, 5.34 inches; April 8, 1895, 2.51 inches; February 6, 1896, 3.31 inches; July 28, 1897, 3.05 inches; August 23, 1897, 2.50 inches; December 14, 1897, 2.57 inches; February 12-13, 1900, 2.78 inches; May 18-19, 1900, 3.56 inches; March 11, 1901, 2.53 inches; August 6-7, 1901, 3.84 inches; February 21, 1902, 3.03 inches; August 10, 1902, 4.00 inches; June 29, 1903, 3.00 inches; August 4-5, 1903, 3.61 inches; October 8, 1903, 3.55 inches; October 9, 1903, 11.45 inches; August 20, 1904, 2.93 inches; September 14-15, 1904, 2.94 inches; October 21, 1904, 2.85 inches; July 30, 1905, 3.20 inches; September 11-12, 1905, 2.50 inches; April 10, 1906, 2.52 inches; September 4, 1907, 2.64 inches; October 28, 1907, 2.55 inches.

Greatest amount in 24 hours, 11.45 inches, October 8-9, 1903.

Longest rainy period, June 6-24, 1903, 19 days; total precipitation, 7.17 inches.

Longest period without measurable precipitation, October 20-November 10, 1901, 22 days.

Average annual number of days with 0.01 of an inch, or more, of precipitation, 116; greatest annual number, 130 (1907); least, 100 (1895).

Average precipitation for spring, 12.32 inches; summer, 13.75 inches; autumn, 12.13 inches; winter, 12.94 inches.

Total precipitation for the wettest spring, 1901, 20.16 inches; wettest summer, 1903, 27.46 inches; wettest autumn, 1907, 21.40 inches; wettest winter, 1901-2, 20.30 inches.

Total precipitation for the driest spring, 1894, 7.93 inches; driest summer, 1894, 5.64 inches; driest autumn, 1901, 7.25 inches; driest winter, 1900-1, 5.75 inches.

*Snowfall* (1893-1907).—Average monthly amounts: January, 11.4 inches; February, 14.8; March, 7.7; April, 1.6; November, 2.5; December, 7.2; average annual amount, 45.2 inches.

Greatest annual amount, 67.7 inches, 1902; least, 17.3 inches, 1901; greatest winter amount (December, January and February), 50.6 inches, 1904-5; least, 11.4 inches, 1905-6; greatest monthly amount, 27.8 inches, February, 1899.

#### COMPARATIVE STATE DATA FOR MARCH.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1885.....	30.4	66	2	1.10
1886.....	37.7	70	9	3.70
1887.....	37.7	61	8	3.34
1888.....	32.8	72	-4	5.71
1889.....	40.5	70	19	3.79
1890.....	37.6	77	0	6.08
1891.....	37.2	68	4	5.06
1892.....	34.4	65	6	4.75
1893.....	37.0	69	5	3.73
1894.....	44.2	83	12	1.77
1895.....	36.7	72	7	3.16
1896.....	34.0	70	-8	5.34
1897.....	40.0	77	8	2.78
1898.....	45.1	77	16	3.33
1899.....	38.6	73	13	6.54
1900.....	35.6	67	-9	3.51
1901.....	39.2	75	-8	4.64
1902.....	43.9	77	0	4.34
1903.....	47.6	79	13	5.13
1904.....	37.2	72	1	3.43
1905.....	39.8	87	-7	3.95
1906.....	34.4	62	-15	5.09
1907.....	41.2	88	-11	3.04
1908.....	41.8	89	7	2.80



## CLIMATOLOGICAL DATA FOR MARCH, 1908.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.					Sky.					Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.	Prevailing direction of wind.		
THE HIGHLANDS & KITTATINNY VAL.																					
Layton	Sussex	550	9	36.0	+0.3	77	27	7	1	39	2.97	-0.92	1.30	7.0	12	10	10	11	8	Warren C. Hursh.	
Sussex (c)	do	442	14	37.6	+0.9	78	27	13	1	38	3.09	-0.78	.....	5.5	11	15	5	11	sw.	Prof. W. H. Secley.	
Culver's Lake	do	848	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	B. E. Riker.	
Newton	do	678	28	37.7	+2.0	78	27	10	1	41	3.45	-0.33	1.34	7.5	14	14	7	10	s.	B. H. Kienbaum.	
Charlotteburg	Passaic	719	16	38.0	+2.0	77	27	9	*1	40	2.91	-1.41	1.40	6.5	12	10	8	13	w.	G. S. Briggs.	
Pompton Plains	Morris	195	6	.....	.....	.....	.....	.....	.....	.....	2.80	.....	1.28	5.5	13	.....	.....	.....	.....	River & Flood Service.	
Boonton	do	413	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	River & Flood Service.	
Dover	do	575	24	36.8	+1.9	76	27	13	1	38	3.16	-0.77	0.95	4.5	13	7	11	13	.....	William C. Harris.	
Belvidere	Warren	280	18	40.9	+3.2	81	27	10	1	40	3.21	-0.77	0.99	4.8	14	10	12	9	.....	Samuel J. Hixson.	
Phillipsburg	do	196	6	41.4	+4.5	80	27	16	1	39	2.93	-0.51	1.17	4.7	15	15	5	11	s.	D. W. Smith.	
THE RED SAND STONE PLAIN.																					
Mahwah	Bergen	.....	6	.....	.....	.....	.....	.....	.....	.....	4.04	-0.27	1.51	5.3	11	.....	.....	.....	.....	River & Flood Service.	
River Vale (g)	do	70	17	37.2	.....	78	27	16	5	.....	3.26	-1.25	0.90	6.0	11	15	5	11	nw.	G. S. M. Holdrum.	
Paterson	Passaic	110	32	41.4	+3.0	82	27	17	1	43	2.54	-2.07	1.02	4.1	12	8	15	8	nw.	H. A. Probert.	
Englewood	Bergen	135	18	39.0	+0.8	77	27	18	1	35	2.17	-2.14	0.71	3.5	12	12	2	17	nw.	William C. Tucker.	
Little Falls	Passaic	175	6	.....	.....	.....	.....	.....	.....	.....	2.61	.....	1.02	4.5	14	.....	.....	.....	.....	River & Flood Service.	
South Orange	Essex	200	39	40.5	+3.9	77	27	18	1	40	2.74	-1.13	0.85	4.0	13	14	6	11	w.	W. J. Chandler, M. D.	
Chatham	Morris	234	6	.....	.....	.....	.....	.....	.....	.....	3.28	-0.26	0.94	3.5	12	.....	.....	.....	.....	River & Flood Service.	
Newark	Essex	140	66	41.6	+3.1	80	27	18	1	42	2.15	-1.81	0.81	3.0	11	10	10	11	nw.	Wm. Wiener.	
New York, N. Y.	New York	314	38	41.4	+3.9	75	27	23	10	27	2.15	-1.95	0.63	3.5	13	10	8	13	nw.	U. S. Weather Bureau.	
Jersey City	Hudson	15	3	42.0	.....	78	27	20	1	32	2.53	.....	0.76	3.5	13	9	8	14	nw.	Sammel K. Pearson, Jr.	
Bayonne	do	50	18	40.6	+1.4	78	27	18	1	39	2.58	-1.56	0.92	3.0	14	10	8	13	w.	John H. Eadie.	
Bergen Point	do	37	11	41.6	+1.6	80	27	19	1	39	3.06	-0.94	0.94	3.5	13	13	9	9	nw.	Dr. W. H. Mitchell.	
Elizabeth	Union	33	29	42.6	+4.4	78	27	20	1	39	2.27	-2.09	0.82	3.5	12	10	12	9	.....	W. M. Oliver.	
Plainfield	do	100	18	40.4	+1.8	79	27	18	1	44	3.08	-1.28	0.98	4.1	12	9	14	8	sw.	John Neagle.	
Somerville	Somerset	76	29	41.6	+3.9	80	27	17	1	44	3.63	-0.40	1.43	4.0	12	14	4	13	sw.	Peter Hardcastle.	
Flemington	Hunterdon	187	11	41.8	+1.4	80	27	17	1	42	3.58	-0.73	1.40	3.0	13	10	10	11	sw.	H. E. Deats.	
New Brunswick (c)	Middlesex	61	55	41.6	+3.5	77	27	18	1	44	3.13	-0.79	1.15	5.0	11	10	11	10	w.	Wm. T. Woerner.	
College Farm	do	100	13	41.9	+1.4	78	27	19	1	43	1.94	-2.47	0.73	3.8	12	10	11	10	nw.	George G. Manning.	
Runyon	do	18	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. H. Cottrell.	
Lambertville	Hunterdon	95	22	42.8	+4.0	8	27	18	1	41	3.53	-0.50	1.20	4.0	12	10	10	11	nw.	William R. Bowne.	
THE SOUTHERN INTERIOR.																					
Hightstown	Mercer	85	17	42.6	+2.0	78	27	19	1	42	3.63	-0.38	1.00	3.5	13	10	9	12	nw.	Ernst Wenger.	
Trenton	do	60	39	43.6	+1.1	76	27	22	*1	35	4.92	+0.61	1.57	3.0	9	10	13	8	sw.	E. R. Cook.	
Imlaystown	Monmouth	106	22	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. C. Price, M. D.	
Burlington	Burlington	12	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	D. S. B. McCoy.	
Rancocas	do	68	23	.....	.....	80	27	22	.....	.....	3.52	-0.51	0.91	3.0	12	11	10	10	nw.	Spencer Haines.	
Brown's Mills (b)	do	71	2	42.2	.....	80	27	10	5	48	3.16	-0.74	1.25	3.0	12	13	6	12	nw.	M. W. Hargrove.	
Moorestown	do	71	44	43.6	+5.3	80	27	20	1	41	3.61	-0.16	1.23	3.7	13	11	7	13	nw.	John C. Beans.	
Philadelphia, Pa.	Philadelphia	117	38	45.0	+5.0	78	27	24	1	34	2.83	-0.62	0.94	2.1	11	9	10	12	nw.	U. S. Weather Bureau.	
Toms River	Ocean	33	17	43.0	+3.4	82	27	17	5	31	3.65	-0.74	1.00	3.0	9	10	12	9	sw.	F. G. Bunnell.	
Haddonfield	Camden	75	.....	43.5	.....	80	27	20	21	39	3.31	.....	0.92	2.0	12	8	11	12	sw.	C. F. Richardson.	
Indian Mills	Burlington	76	8	44.6	+1.7	82	27	20	*4	42	2.66	-1.70	0.76	3.0	12	13	8	10	nw.	James Armstrong.	
Clayton	Gloucester	126	12	44.6	+2.4	80	27	22	*1	40	2.35	-1.47	0.48	2.0	9	10	10	11	w.	Wm. T. Farley.	
Hammononton	Atlantic	80	11	.....	.....	.....	.....	.....	.....	.....	.....	-0.93	0.60	2.0	8	12	10	9	.....	Orville Bassett.	
Tuckerton	Ocean	23	11	43.2	+2.8	73	29	20	*1	33	3.16	-1.36	0.62	2.0	11	8	12	11	sw.	F. R. Austin.	
Egg Harbor City	Atlantic	63	19	.....	.....	82	27	22	*1	.....	.....	-2.41	0.53	1.6	7	10	11	10	sw.	Charles Saalman.	
Friesburg	Salem	100	16	41.8	+2.4	80	27	22	5	39	1.95	-1.72	0.42	2.5	13	9	11	11	w.	H. C. Perry.	
Vineland	Cumberland	118	41	44.8	+4.6	81	27	21	21	36	1.54	-2.71	0.47	2.0	12	12	8	11	nw.	Alfred Chalmers.	
Canton	Salem	24	7	.....	.....	.....	.....	.....	.....	.....	1.96	-2.00	0.78	1.0	7	14	8	9	.....	J. H. Maskell.	
Bridgeton (f)	Cumberland	30	33	46.2	+3.9	82	27	22	21	39	1.87	-2.87	0.42	3.0	8	12	5	14	nw.	Henry A. Jorden.	
Pleasantville	Atlantic	26	11	.....	.....	.....	.....	.....	.....	.....	1.06	-2.36	0.39	1.5	12	10	10	11	.....	L. Van Gilder.	
Northfield	do	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.74	.....	0.41	3.5	12	.....	.....	.....	.....	Wm. L. Flick.	
Port Norris	Cumberland	8	.....	.....	.....	.....	.....	.....	.....	.....	1.65	.....	0.49	0.5	11	.....	.....	.....	.....	J. H. Barraclough.	
Woodbine	Cape May	43	17	45.0	+3.6	76	27	21	*10	31	1.55	-2.54	0.50	2.0	9	13	10	8	sw.	R. D. Maltby.	
Cape May C. H.	do	19	21	45.0	+3.4	74	29	22	21	25	1.97	-2.19	0.58	3.0	12	11	10	10	s.	L. T. Garretson.	
THE SEA COAST.																					
Oceanic	Monmouth	16	22	42.8	+3.2	80	27	21	4	33	3.42	-1.01	0.98	3.0	14	11	9	11	nw.	Prof. C. E. Dietz.	
Long Branch	do	30	.....	43.2	.....	73	27	22	1	34	3.12	.....	0.82	3.0	10	16	6	9	se.	B. B. Robbitt.	
Asbury Park	do	22	20	41.6	+2.5	68	*27	23	*1	31	2.79	-1.69	0.67	3.0	11	13	5	13	w.	B. H. Obert.	
Atlantic City	Atlantic	16	35	41.8	+3.0	64	12	24	21	26	1.77	-1.96	0.44	2.0	11	8	8	15	sw.	Section Center.	
Cape May City	Cape May	17	24	42.8	+2.0	62	28	24	21	23	1.87	-1.86	0.47	2.5	13	10	9	12	s.	U. S. Weather Bureau.	

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

† Not considered in averages.

‡ Published subject to correction.

DAILY MAXIMUM AND MINIMUM TEMPERATURES FOR MARCH, 1908.

[illegible]



# Total Monthly Precipitation, March 1908.



**TOTAL PRECIPITATION FOR MARCH, 1908.**

[illegible]

|| Precipitation measured at 8 a. m., 75th meridian time.  
† Incomplete.

\* Precipitation included in that of following day.  
‡ Published subject to confirmation.

T. Indicates amount too small to measure.



U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR APRIL, 1908

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF

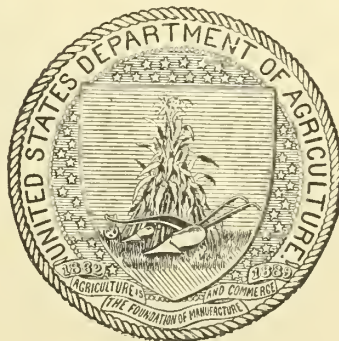
WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.

WEATHER BUREAU OFFICE

MAY 21, 1908

Monthly Mean Isotherms and Prevailing Winds, April, 1908.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XXI. ATLANTIC CITY, N. J., APRIL, 1908. No. 4.

## GENERAL SUMMARY.

April, 1908, averaged somewhat warmer than usual, although weather prevailed at intervals during the month—principally in the first and second decades. The excess in mean temperature occurred, for the most part, as a result of abnormally warm weather in the latter part of the third decade. The precipitation was below the normal, and there was no appreciable snowfall. The duration of sunshine exceeded the possible amount.

The mean temperature ranged from 47°, in the extreme north, to 55°, in portions of Cumberland County, in the south, and exceeded the normal thruout the State. The excess was most marked at stations in the Southern Interior and Sea Coast divisions, where it was generally more than 2° per day. The daily mean temperatures were generally much above the normal during the latter parts of the first and third decades, and on the 23d, the maximum temperatures being unusually high at stations in the interior on the 23d and 26th. While unseasonably low night temperatures occurred at the beginning of the third decade, the chief cold periods of the month prevailed from the 3d to the 5th, inclusive, and during the middle of the second decade. The lowest temperatures of the month were reported, as a rule, on the 5th, the monthly minimum temperature (13°) being the lowest recorded for April in a period of 10 years. The last damaging frost of the month occurred thruout the northern portion of the State on the 21st, and in the interior and the southern counties on the 17th. The seacoast was mostly free from destructive frost during the month.

Precipitation occurred on an average of 11 days during the month, and was quite uniformly distributed thruout the State. The monthly amounts generally ranged from slightly more than 1 inch to about 3.75 inches, except over portions of Atlantic, Bergen and Cape May counties, where less than 2 inches were received. As compared with the normal, there was, for the State as a whole, a deficiency in precipitation, the departures from the monthly average being most pronounced over portions of Atlantic, Bergen, Cape May, Essex, Hudson and Ocean counties. The 24-hour amounts of precipitation were generally small thruout the month, with the exception of the 30th, when heavy showers, amounting to more than 1 inch, occurred over a large part of the State.

Brisk to high winds were unusual frequency during the month, and damaging gales occurred on the 11th and 30th.

## TEMPERATURE.

The monthly mean, 51.2°, was 1.8° above the normal. The mean maximum was 62.7°, the mean minimum 39.8°, and the mean daily range 22.9°.

The means for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley, 48.7°, +0.9°; Red Sand Stone Plain, 50.9°, +1.5°; Southern Interior, 52.9°, +2.6°; Sea Coast, 51.0°, +2.0°.

The highest monthly mean was 54.9°, at Bridgeton, and the lowest, 47.4°, at Layton, the range of monthly mean temperature being 7.5°.

The highest temperature, 93°, occurred at Brown's Mills, on the 26th, and the lowest, 13°, at Layton, on the 5th, the range within the State being 80°.

The greatest local monthly range, 77°, occurred at Brown's Mills, and the least, 42°, at Cape May.

The greatest daily range, 45°, occurred at Indian Mills and River Vale, on the 7th.

## PRECIPITATION.

The average, 2.72 inches, was 0.72 of an inch below the normal, the averages for the various districts, with the departures from the normal, being as follows: The Highlands and Kittatinny Valley, 3.13 inches, —0.23 inch; Red Sand Stone Plain, 2.67 inches, —0.61 inch; Southern Interior, 2.67 inches, —0.76 inch; Sea Coast, 2.43 inches, —0.97 inch.

The greatest amount, 3.86 inches, occurred at Charlotteburg, and the least, 1.42 inches, at Pleasantville.

The greatest amount in 24 hours, 2.10 inches, occurred at Charlotteburg, on the 30th.

No excessive precipitation occurred during the month.

The average snowfall, unmelted, was inappreciable.

Measurable precipitation occurred on an average of 11 days.

NOTE.—The total precipitation for the following-named stations, Pompton Plains, Boonton, Mahwah, Little Falls and Chatham, published on pages 29 and 32 of this report, does not include the amounts that occurred on April 30.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 14; partly cloudy, 9; cloudy, 7. The duration of sunshine was above the normal, the percentage of the possible amount being 66, at Atlantic City, and 56 (estimated), at Hightstown, and 60 (estimated), at Jersey City.

## WIND.

Northwest winds prevailed. Brisk to high winds were reported on the 2d, 3d, 4th, 9th, 12th, 13th, 15th, 16th, 19th, 20th, 21st, and 22d. Gales occurred on the 11th and 30th. The following maximum velocities (for 5-minute periods) were reported: Atlantic City, 41 miles per hour, from the south, on the 30th; Cape May, 46 miles per hour, from the south, on the 30th; Jersey City, 68 miles per hour, from the northwest, on the 11th.

## MISCELLANEOUS PHENOMENA.

*Aurora*.—Bergen Point, 25th.

*Metcors.*—Bergen Point, 25th.

*Lightning.*—Indian Mills, Vineland, 8th; Somerville, 27th.

*Halos, solar.*—Atlantic City, 5th, 18th, 23d; Burlington, 7th, 17th, 30th; Haddonfield, 5th; Indian Mills, 18th, 30th; Moorestown, 5th, 7th, 30th.

*Hail.*—Atlantic City, Bridgeton, Friesburg, Haddonfield, Indian Mills, Trenton, Tuckerton, 19th; Moorestown, Rancocas, 19th, 28th; River Vale, 28th.

*Halos, lunar.*—Atlantic City, 9th, 14th; Bergen Point, Canton, Long Branch, 15th; Burlington, 9th; Jersey City, 14th; Newark, 7th; Oceanic, 8th, 14th, 17th.

*Thunderstorms* (dates and number of reports).—3d, 1; 8th, 3; 9th, 2; 11th, 1; 13th, 1; 18th, 1; 19th, 12; 25th, 6; 27th, 16; 28th, 13; 29th, 1; 30th, 2. Thunderstorms occurred at Weather Bureau stations as follows: Atlantic City, 19th, 27th, 30th; Cape May, 8th, 19th, 27th.

*Fog.*—Atlantic City, Cape May, 11th, 15th, 24–27th; Asbury Park, Lambertville, 24–26th; Bayonne, 8th, 25th, 26th; Bergen Point, 10th, 25th, 27th; Canton, Flemington, Haddonfield, Im-laystown, 26th; Englewood, 8th, 10th, 26th; Hammonton, 24th, 27th; Hightstown, Trenton, 25th, 26th; Indian Mills, 27th; Jersey City, 8th, 25th; Long Branch, 24th, 25th; Moorestown, 26th, 27th; Oceanic, 24th, 25th, 27th.

#### TEMPERATURE DATA FOR IMLAYSTOWN, MONMOUTH COUNTY, N. J.

##### MONTHLY AND ANNUAL MEAN TEMPERATURES.

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Anl.
1887.	32	35	34	46	64	68	77	70	76	52	41	34	51
1888.	26	31	32	48	58	70	70	72	63	48	45	34	50
1889.	36	27	39	.....	62	70	73	71	64	51	45	*42	.....
1890.	*41	*40	38	49	58	70	71	70	64	54	44	30	53
1891.	34	39	37	52	61	72	71	74	69	53	43	*42	54
1892.	31	34	35	51	62	74	76	74	64	54	43	31	52
1893.	32	31	37	50	60	72	76	75	64	56	43	36	52
1894.	36	31	46	51	64	73	*78	73	69	58	41	36	*55
1895.	29	24	36	49	63	74	73	*77	*72	51	47	39	53
1896.	29	33	34	*55	*67	70	*78	75	66	53	*50	31	54
1897.	29	33	43	52	62	69	76	73	67	57	44	36	54
1898.	34	34	47	49	61	72	*78	76	70	58	44	34	55
1899.	32	26	41	53	64	*75	77	74	67	59	46	38	54
1900.	34	33	38	53	63	72	77	*77	71	*62	*50	35	*55
1901.	32	26	42	51	62	72	*78	75	69	56	44	35	53
1902.	29	28	45	52	62	70	75	72	66	57	*50	32	53
1903.	32	35	*49	52	65	76	75	70	66	57	41	31	53
1904.	25	26	36	49	65	70	74	72	66	53	42	28	51
1905.	28	24	42	51	63	70	76	72	66	56	44	38	53
1906.	*41	.....	38	54	.....	72	74	75	69	55	44	33	.....
1907.	32	23	41	45	56	66	74	71	67	51	43	37	50
M'ns	32	31	40	50	62	71	75	73	67	55	44	35	52.9

\* Greatest on record.

† Least on record.

##### MONTHLY EXTREMES OF TEMPERATURE, 1887–1907.

Max .....	72	68	84	93	96	103	104	100	98	89	77	68
Min. ....	-9	-11	4	19	32	39	48	43	33	25	12	3

Highest temperature, 104°, July 3 and 4, 1898; lowest, -11°, February 10 and 11, 1899; range of temperature, 115°.

Number of years with maximum temperature 100°, or higher, 6; minimum temperature zero, or lower, 10.

Average annual number of days with maximum temperature 90°, or higher, 25; with minimum temperature 32°, or lower, 110.

Lowest annual maximum temperature, 91°, 1889; highest annual minimum, 12°, 1891.

Highest annual mean, 55.4°, 1900; lowest, 49.7°, 1888; range of annual mean temperature, 5.7°.

Highest monthly mean, 78.5°, July, 1894; lowest, 21.7°, January, 1893; range of monthly mean temperature, 56.8°.

Average annual range of temperature, 97°; greatest annual range, 109°, 1893 and 1899; least, 86°, 1891 and 1902.

Greatest monthly range, 78°, March, 1905; least, 32°, August, 1901.

Average temperature for spring, 51°; summer, 73°; autumn, 55°; winter, 32°.

Average temperature for the warmest spring, 1903, 55°; for the warmest summer, 1898, 76°; for the warmest autumn, 1900, 61°; for the mildest winter, 1889–90, 41°.

Average temperature for the coldest spring, 1888, 46°; for the coolest summer, 1903, 70°; for the coolest autumn, 1887, 52°; for the coldest winter, 1904–5, 27°.

Average date of last killing frost in spring, April 21; of first killing frost in autumn, October 19; average length of the growing season, 180 days.

Earliest date on which first killing frost occurred in autumn, September 22 (1904); latest date of killing frost in spring, May 12 (1907).

#### DELAYED REPORTS.

Runyon, February, 1908.—Total precipitation, 4.00 inches; greatest in 24 hours, 1.03 inches; snowfall, 8.5 inches; number of rainy days, 9; clear, 12; partly cloudy, 6; cloudy, 11. March, 1908.—Total precipitation, 3.36 inches; greatest in 24 hours, 1.20 inches; snowfall, 3.5 inches; number of rainy days, 11; clear, 11; partly cloudy, 10; cloudy, 10.

Boonton, March, 1908.—Total precipitation, 2.63 inches; departure from the normal, -0.79 inch; greatest in 24 hours, 1.03 inches; snowfall, 4.2 inches; number of rainy days, 15.

#### COMPARATIVE STATE DATA FOR MARCH.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1885.....	48.4	88	26	2.79
1886.....	50.6	86	27	3.40
1887.....	47.3	87	16	2.70
1888.....	47.9	92	22	3.28
1889.....	51.2	83	25	5.32
1890.....	50.4	86	21	2.65
1891.....	52.0	88	20	2.19
1892.....	49.3	87	19	2.49
1893.....	49.2	82	19	5.21
1894.....	50.3	88	10	3.00
1895.....	49.1	89	19	4.88
1896.....	52.4	98	12	1.35
1897.....	50.4	89	19	3.79
1898.....	47.8	81	13	3.74
1899.....	49.9	88	18	1.73
1900.....	50.8	82	17	2.29
1901.....	48.3	89	23	6.31
1902.....	50.2	93	20	3.62
1903.....	50.9	92	18	3.97
1904.....	46.7	85	16	3.42
1905.....	49.9	84	18	2.88
1906.....	51.2	87	17	3.64
1907.....	45.2	83	19	3.78
1908.....	51.2	93	13	2.72



## CLIMATOLOGICAL DATA FOR APRIL, 1908.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.					Prevailing direction of wind.	OBSERVERS.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.		
THE HIGHLANDS & KITTATINNY VAL.																				
Layton	Sussex	550	9	47.4	+1.5	81	23	13	5	44	3.07	-0.03	1.49	0	10	11	14	5	w.	Warren C. Hursh.
Sussex	do	442	14	49.2	+0.8	85	23	18	5	39	2.92	-0.24	1.58	0	10	15	11	4	sw.	Prof. W. H. Seeley.
Culver's Lake	do	848	7	.....	.....	.....	.....	18	5	.....	3.60	+0.22	1.51	T.	14	14	9	7	s.	B. E. Riker.
Newton	do	678	28	47.8	+0.2	82	23	17	5	42	2.70	-0.35	1.23	0	8	14	9	7	nw.	B. H. Kienbaum.
Charlotteburg	Passaic	719	16	47.6	+1.1	83	23	14	5	44	3.86	-0.14	2.10	0	10	17	7	6	.....	G. S. Briggs.
Pompton Plains	Morris	195	6	.....	.....	.....	.....	.....	.....	.....	1.87	.....	0.77	0	15	.....	.....	.....	nw.	M. S. Taylor.
Boonton	do	413	11	.....	.....	.....	.....	.....	.....	.....	1.78	.....	0.75	0	13	.....	.....	.....	nw.	F. G. McIntosh.
Dover	do	575	24	47.6	+0.3	82	*23	18	5	33	3.14	-0.23	1.50	0	10	9	14	7	.....	William C. Harris.
Belvidere	Warren	289	18	50.8	+1.5	86	23	20	5	39	3.20	+0.07	1.02	0	10	14	9	7	.....	Samuel J. Hixson.
Phillipsburg	do	196	6	50.8	+1.4	85	*23	22	5	37	2.57	-0.51	0.86	0	11	13	10	7	w.	D. W. Smith.
THE RED SAND STONE PLAIN.																				
Mahwah	Bergen	.....	6	.....	.....	.....	.....	.....	.....	.....	1.87	.....	0.84	T.	12	.....	.....	.....	nw.	M. F. Brooks.
River Vale (d)	do	70	17	47.9	+0.4	84	26	.....	.....	45	.....	.....	1.56	0	.....	12	13	5	nw.	G. S. M. Holdrum.
Patterson	Passaic	110	32	51.9	+1.6	88	26	23	5	39	3.19	-0.42	1.56	T.	10	11	14	5	nw.	H. A. Probert.
Englewood	Bergen	135	18	49.8	+1.3	81	23	22	5	31	1.82	-1.49	0.81	0	9	14	3	13	nw.	William C. Tucker.
Little Falls	Passaic	175	6	.....	.....	.....	.....	.....	.....	.....	1.82	.....	0.83	0	14	.....	.....	.....	w.	F. Fearn.
South Orange	Essex	200	39	49.8	+1.6	82	26	22	5	31	2.84	-0.60	1.33	T.	9	13	9	8	nw.	W. J. Chandler, M. D.
Chatham	Morris	234	6	.....	.....	.....	.....	.....	.....	.....	1.82	.....	0.62	0	13	.....	.....	.....	w.	M. A. Butler.
Newark	Essex	140	66	51.6	+2.1	85	26	25	*4	31	2.52	-1.04	1.25	0	11	9	11	10	nw.	Wm. Wiegner.
New York, N. Y.	New York	314	38	50.6	+2.5	79	26	27	5	24	1.82	-1.48	0.78	T.	10	13	11	6	nw.	U. S. Weather Bureau.
Jersey City	Hudson	15	3	51.8	.....	83	*23	26	5	32	2.20	.....	0.76	T.	12	11	10	9	nw.	Samuel K. Pearson, Jr.
Bayonne	do	50	18	50.7	+1.0	83	26	25	5	33	2.16	-1.27	0.80	T.	13	12	9	9	nw.	John H. Eadie.
Bergen Point	do	37	11	50.7	+1.6	84	26	25	5	35	3.06	-1.11	1.11	T.	10	12	9	9	nw.	Dr. W. H. Mitchell.
Elizabeth	Union	33	29	53.3	+2.6	87	26	26	5	29	2.23	-1.30	0.82	0	9	14	7	9	w.	W. M. Oliver.
Plainfield	do	100	18	50.7	+1.3	85	26	21	5	41	3.20	-0.73	1.29	T.	13	12	11	7	sw.	John Neagle.
Somerville	Somerset	76	29	51.4	+2.4	86	26	20	5	42	3.24	-0.06	1.23	0	10	15	9	6	sw.	Peter Hardesty.
Flemington	Hunterdon	187	11	51.2	+1.6	83	*26	20	5	39	2.96	-0.42	1.07	0	13	18	7	5	sw.	H. E. Deats.
New Brunswick	Middlesex	61	55	50.2	+0.5	84	26	20	5	35	2.93	-0.80	1.10	0	9	13	11	6	n.	Wm. T. Woerner.
College Farm	do	100	13	50.4	+0.7	83	26	20	5	36	3.31	-0.11	1.34	T.	10	15	8	7	w.	George G. Manning.
Runyon	do	18	1	.....	.....	.....	.....	.....	.....	.....	2.03	.....	0.57	T.	10	14	10	6	.....	J. H. Cottrell.
Lambertville	Hunterdon	95	22	52.2	+1.9	84	*26	22	5	40	3.23	-0.12	1.05	T.	9	14	11	5	nw.	William R. Bowne.
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	17	52.1	+2.0	85	26	23	5	35	3.50	-0.49	1.49	0	10	12	8	10	nw.	Ernst Wenger.
Trenton	do	60	39	53.0	+0.9	80	*23	25	5	34	3.34	-0.24	0.75	T.	9	16	10	4	sw.	E. R. Cook.
Imlaystown (b)	Monmouth	106	22	51.6	+1.1	86	26	19	5	35	3.10	-0.21	1.23	T.	9	17	9	4	sw.	F. C. Price, M. D.
Burlington	Burlington	12	16	.....	.....	.....	.....	.....	.....	.....	3.57	+0.08	1.15	T.	9	17	4	9	nw.	D. S. B. McCoy.
Rancocas (p)	do	68	23	.....	.....	85	27	25	5	.....	3.30	+0.28	1.18	.....	13	16	4	10	nw.	Spencer Haines.
Brown's Mills (d)	do	71	2	51.4	.....	93	26	16	5	43	3.12	.....	1.20	T.	12	.....	.....	.....	.....	M. W. Hargrove.
Moorestown	do	71	44	52.8	+2.9	84	26	24	5	34	3.33	+0.19	1.03	T.	15	14	8	8	s.	John C. Beas.
Philadelphia, Pa.	Philadelphia	117	38	54.6	+3.8	83	26	30	5	28	2.35	-0.56	0.90	T.	12	14	10	6	uw.	U. S. Weather Bureau.
Toms River	Ocean	33	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. G. Bunnell.
Haddonfield	Camden	75	.....	52.7	.....	85	26	22	5	35	3.18	.....	1.29	T.	15	15	10	5	s.	C. F. Richardson.
Indian Mills	Burlington	76	8	53.2	+2.8	89	26	17	5	45	2.68	-0.67	0.80	T.	11	15	11	4	nw.	James Armstrong.
Clayton	Gloucester	126	12	53.4	+3.3	86	26	23	5	39	2.57	-0.74	1.13	0	11	14	11	5	sw.	Wm. T. Farley.
Hammononton	Atlantic	80	11	.....	.....	.....	.....	.....	.....	.....	2.43	-1.27	1.00	T.	12	12	11	7	.....	Orville Bassett.
Tuckerton	Ocean	23	11	51.4	+3.2	81	26	20	5	36	2.40	-1.33	0.70	T.	10	14	12	4	nw.	F. R. Austin.
Egg Harbor City	Atlantic	63	19	.....	.....	90	26	25	5	.....	2.63	-1.10	0.80	T.	9	14	8	8	s.	Charles Saalman.
Friesburg	Salem	100	16	53.2	+3.0	83	*26	24	5	38	2.60	-0.80	1.10	T.	15	15	9	6	s.	H. C. Perry.
Vineyard	Cumberland	118	41	53.4	+2.9	87	26	22	5	39	2.86	-0.48	1.30	.....	13	13	10	7	nw.	Alfred Chalmers.
Canton	Salem	24	7	.....	.....	.....	.....	.....	.....	.....	2.39	-0.72	0.95	T.	9	15	9	6	.....	J. H. Maskell.
Bridgeton	Cumberland	30	33	54.9	+2.2	87	26	30	*3	39	3.44	-0.17	1.08	T.	9	18	3	9	s.	Henry A. Jorden.
Pleasantville	Atlantic	26	11	.....	.....	.....	.....	.....	.....	.....	1.42	-1.70	0.35	T.	12	15	9	6	.....	L. Van Gilder.
Northfield	do	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.69	.....	0.39	0	13	.....	.....	.....	.....	Wm. L. Flick.
Port Norris	Cumberland	8	.....	.....	.....	.....	.....	.....	.....	.....	2.50	.....	1.35	0	10	.....	.....	.....	.....	J. H. Barraclough.
Woodbine	Cape May	43	17	52.8	+3.0	83	26	21	5	37	1.79	-1.95	0.75	0	9	15	11	4	nw.	R. D. Maltby.
Cape May C. H.	do	19	21	53.5	+3.1	81	26	25	5	34	1.94	-1.44	0.35	0	12	13	10	7	nw.	L. T. Garretson.
THE SEA COAST.																				
Oceanic	Monmouth	16	22	51.5	+0.9	83	23	27	5	36	2.64	-0.73	0.67	T.	16	16	9	5	nw.	Prof. C. E. Dietz.
Long Branch	do	30	.....	51.4	.....	75	26	24	5	30	3.09	.....	0.84	T.	9	14	9	7	nw.	B. B. Bobbitt.
Asbury Park	do	22	20	49.8	+1.1	75	26	24	5	28	2.83	-0.84	0.64	T.	12	12	9	9	w.	B. H. Obert.
Atlantic City	Atlantic	16	35	50.9	+3.3	72	13	29	4	28	1.47	-1.52	0.36	T.	14	10	10	10	sw.	Section Center.
Cape May City	Cape May	17	24	51.2	+2.8	72	13	30	5	27	2.14	-0.85	0.78	0	14	11	11	8	s.	U. S. Weather Bureau.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

† Not considered in averages.

‡ Published subject to correction.

[illegible]



# Total Monthly Precipitation, April, 1908.



## TOTAL PRECIPITATION FOR APRIL, 1908.

Stations.	Day of month.																															Total.		
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.			
THE HIGHLANDS & KITTA-TINNY VALLEY.																																		
Layton .....		.10						.60		.14	.05				.14				.30							.10		.10		1.49		3.0		
Sussex .....					.12			.72	.03	.05					.08	.10		.02	.20	.02					T.					1.58		2.9		
Culver's Lake .....		.08	T.	T.		.08		.70	.03	.12	.05				.15	.09		.01	.34	T.					.01	.12	T.	.31		1.51		3.6		
Newton .....		.10				.06		.71		.05					.17			T.	.31	T.									.07		1.23		2.7	
Charlotteburg .....		.20			*	.12		*	.80	*	.10				.18			*	.25		.01							.11		.18		2.10		3.8
Pompton Plains .....	.08	.20			*	.08		*	.77	*	.08				*	.20		*	.25		T.				.02				.18				1.7	
Boonton .....	.03	.14			*	.13		*	.75	*	.15				.13			*	.18	T.					.02				.25				1.8	
Dover .....					.15			.69		.12					.22				.29	.01					.04		*		.12		1.50		3.1	
Belvidere .....						.37		.90		.05	.07				.25	.12		.06	.34	.02											1.02		3.2	
Phillipsburg .....		.20			.02	.11		.64	T.		.08	.05			.38			.05	.14						T.	T.	T.			.04		.86		2.5
THE RED SAND STONE PLAIN.																																		
Mahwah .....		.14		T.	*	.11		.84		.18	.03				.21			*	.18									.13	.05			1.8		
River Vale .....								.30		.40					.60			.70										.10		.80		†		
Paterson .....		.14			*	.10		.76		.12	.07		T.		.20			T.	.20	T.				T.		T.		.04		1.56		3.1		
Englewood .....		.16			.06			.36		.04	.03				.21			.09	T.	T.				T.		T.			.06		.81		1.8	
Little Falls .....	.06	.17			*	.13		*	.83	*	.15				.22			.16	.02	.01				T.			.04	.03				1.8		
South Orange .....		.16	T.		.14			.68		.07	.03				.30			.12	.01	T.											1.33		2.8	
Chatham .....	.12	.19			*	.19		*	.62	*	.16				*	.32		*	.17					T.				.05				1.8		
Newark .....		.20			.15			.48	.01	.05	.09				.12			.05	.11								.01				1.25		2.5	
New York, N. Y. ....		.14			T.			.39	.01	.04	.06				.18			.08	T.	T.				T.		T.		.04		.78		1.8		
Jersey City .....		.25			.09	.05		.48	T.	.08	.09		T.		.23	.03		.08	.05	T.				T.	T.	T.		.01		.76		2.2		
Bayonne .....		.20	T.		.02	.10		.45	.02	.04	.10				.18	.07		.04	.12	T.				T.	T.	T.		.02		.80		2.1		
Bergen Point .....			T.	T.	T.			.86	.03	.09	.11				.26			.46	.11	.01				.02						1.11		3.0		
Elizabeth .....	.18				.11			.60			.10				.27			*	.15							T.				.82		2.2		
Plainfield .....	.28	T.			.01			.64	.07	.12	.12				.41			.06	.24	.01				.03		.01	.03			1.29		3.2		
Somerville .....	.30							.70		.08	.11				.28	.15			.33				.03		.03		.03				1.23		3.2	
Flemington .....	.28				*	.10		.61	.03	.04	.11				.22			T.	.40	T.				.02		.06	.02			1.07		2.9		
New Brunswick .....	.27				.06			.56		.10	.13				.36			T.	.30					T.		.05				1.10		2.9		
College Farm .....	.29				.08			.68	.03	T.	.16				.13	.24			.30					T.		.06				1.34		3.3		
Runyon .....	.19	T.			.04			.46		T.	.32				.24			T.	.15	T.				T.		.01	.05			.57		2.0		
Lambertville .....			T.		.38			.66		.18	T.				.35			T.	.23	T.				.02			.36			1.05		3.2		
THE SOUTHERN INTERIOR.																																		
Hightstown .....		.21				.10		.75		.10	.18				.26			.05	.14								T.	.22		1.49		3.5		
Trenton .....	.36	T.						.75		.18	T.				.40			.37	.58	T.							.10	T.		.60		3.3		
Imlaystown .....	.08	T.			.01			.20		.66					.51			*	.33					T.		.08				1.23		3.1		
Burlington .....	.17	T.			.07			.60		.48					.31			.10	.21	T.						.48				1.15		3.5		
Rancocas .....	.20	T.	T.		.10			.60		.25	.12				.12			.11	.25	.01				.01		.10	.25			1.18		3.3		
Brown's Mills .....	.30	T.			.08			.38		*	.48				.18			.13	.02					.13		*	.22			1.20		3.1		
Moorestown .....	.26	T.			.01	.06		.58		.29	.15				.14	.01		.08	.29	.02				.02		.10	.29			1.03		3.3		
Philadelphia, Pa. ....	.21	T.	T.		.04			.52		.13	.14				.16			.10	.10	T.				.02		.02	.01			.90		2.3		
Toms River .....																																		
Haddonfield .....	.01	.23	T.	T.	.03	.07		.53		.21	.16				.18	.01		.13	.07					.04		.01	.21			1.29		3.1		
Indian Mills .....	.25	T.						.50		.11	.10				.16			.10	.40	.03				T.		.16	.07			.80		2.6		
Clayton .....	.22				*	.06		.49		T.					*	.28		*	.23					T.		.06	.10			1.13		2.5		
Hammonton .....	T.	.26		T.	.04			.35		.09	.03				*	.23		.15	.03					T.		.21	.04			1.00		2.4		
Tuckerton .....	.33	T.			.05			.23		.13	.09				.16	.09			.29	.01						.70				.41		2.4		
Egg Harbor City .....	.21			T.	.04			.35		.15					.46			.21	.04					T.		.37				.80		2.6		
Friesburg .....	.11			T.	.01	.05		.40	.01	.07	.05				.23	.20		.14	.13					.01		.03	.06			1.10		2.6		
Vineland .....	.18				*	.06		.41		.02	.11				.24	.19		*	.18	T.				.03		.14				1.30		2.8		
Canton .....				T.	.24			.40	T.	.09					.25			.28	.01					.03		.14				.95		2.3		
Bridgeton .....	.23			T.				.40		*	.12				.38			.18	.63					T.		.42				1.08		3.4		
Pleasantville .....	.20			T.	.01	T.		.10		.07					.16	.05		.14	.19						.05		.08	.02		.35		1.4		
Northfield .....	T.	.24				.06		.07		.11	.03				.16	.05		.10	.26					.04		.17	.01			.39		1.6		
Port Norris .....	.26				.04	.20		.24		.03					.10			.04	.08							.16				1.35		2.5		
Woodbine .....					.07			.10	T.	.10					*	.10		.10	.37							T.	T.	.20		.75		1.7		
Cape May C. H. ....	T.	.20		.16		.06				.02	.09				.15	.26		.09	.24								.30	.02		.35		1.9		
THE SEA COAST.																																		
Oceanic .....	.31	T.			*	.11		.29	.04	.16	.20				.08	.20		.03	.26	.02						.02		.03	.22		.67		2.6	
Long Branch .....	.28	T.			T.			.31		.31	.17				*	.14		T.	.46	T.					T.			.84		.58		3.0		
Asbury Park .....	.32	T.				.08		.27	.02	.12	.20				.03	.16			.44	.02								.64	T.	.53		2.8		
Atlantic City .....	.20		T.		.03	.03		.04	.01	.16	.02				.20	.01		.25	.12					T.		.16	.01		.23		1.47			
Cape May City .....	.02	.25			.04	.02		.20	.04	.12					.05	.06		.06	.03						T.		.78	.04		.43		2.1		



U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR MAY, 1908

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF  
WILLIS L. MOORE  
CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS  
SECTION DIRECTOR



BOSTON, MASS.  
WEATHER BUREAU OFFICE  
JUNE 22, 1908

Monthly Mean Isotherms and Prevailing Winds, May, 1908.





U. S. DEPARTMENT OF AGRICULTURE,  
**CLIMATOLOGICAL SERVICE**

OF THE  
**WEATHER BUREAU.**

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,  
 LEVI A. JUDKINS, Section Director.

VOL. XXI. ATLANTIC CITY, N. J., MAY, 1908. No. 5.

**GENERAL SUMMARY.**

The mean temperature during May, 1908, was slightly above the normal for the State as a whole, and the precipitation decidedly above. Unseasonably cool weather prevailed during the first decade, and parts of the second and third decades were abnormally warm. The heavy rainfall and the large number of rainy days were marked features of the month, the average rainfall being the greatest reported for May in a period of 24 years, with a single exception, 1894. There was excessive cloudiness during the month, and an unusual amount of dense fog during the latter half.

The daily mean temperatures were almost continuously below the normal during the first decade, and were generally above the normal the rest of the month. Periods of high temperature extended from the 11th to the 13th, and from the 24th to the 28th, during which the maximum temperatures exceeded 80°, and, at some stations, occasionally reached 90°, or slightly higher. The lowest temperatures of the month, generally below 40°, were reported as a rule on the 2d and 3d, when heavy frost occurred in the mountain districts. The local departures of monthly mean temperature from the normal were mostly unimportant, a moderate excess being reported from all stations, except in portions of Bergen, Middlesex and Monmouth counties, where there was a slight deficiency.

The monthly precipitation ranged from about 4.50 inches, in Cape May County, to more than 9 inches, in Hudson and Hunterdon counties and portions of Bergen County, few stations within the State receiving less than 6 inches. At several stations in Essex and Union counties, in the northeast, the monthly rainfall was the greatest ever received in May within the range of records covering periods of from 30 to more than 60 years. There was a marked excess over most of the State, especially over the Red Sand Stone Plain division, where the rainfall was generally more than 4 inches above the normal. There were no well defined periods of dry weather during the month, the only days without measurable amount of rain in some portion of the State being the 11th, 12th, 24th and 25th. Excessive precipitation occurred on the 7th at numerous stations in the north, and very heavy rains at most stations in the southern counties. Large 24-hour amounts were also received on the 30th, and, locally, on several other dates during the latter half of the month.

The month was generally free from high winds and damaging

local storms, altho severe thunderstorms, causing loss of property from lightning and fire, occurred in portions of Burlington and Monmouth counties on the 17th.

**TEMPERATURE.**

The monthly mean, 61.6°, was 0.8° above the normal. The mean maximum was 71.3°, the mean minimum 51.9°, and the mean daily range 19.4°.

The means for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley, 60.5°, +1.1°; Red Sand Stone Plain, 61.5°, +0.6°; Southern Interior, 63.2°, +1.2°; Sea Coast, 59.5°, +0.3°.

The highest monthly mean was 65.2°, at Bridgeton, and the lowest, 58.4°, at Englewood, the range of monthly mean temperature being 6.8°.

The highest temperature, 95°, occurred at Brown's Mills, on the 26th and 27th, and the lowest, 29°, at Layton, on the 5th, the range within the State being 66°.

The greatest local monthly range, 60°, occurred at Brown's Mills, and the least, 40°, at Cape May.

The greatest daily range, 48°, occurred at Layton, on the 11th.

**PRECIPITATION.**

The average, 7.10 inches, was 3.36 inches above the normal, the averages for the various districts, with the departures from the normal, being as follows: The Highlands and Kittatinny Valley, 6.98 inches, +3.07 inch; Red Sand Stone Plain, 8.31 inches, +4.55 inches; Southern Interior, 6.44 inches, +2.62 inches; Sea Coast, 5.72 inches, +2.19 inches.

The greatest amount, 9.99 inches, occurred at Bergen Point, and the least, 4.39 inches, at Cape May.

The greatest amount in 24 hours, 4.23 inches, occurred at Englewood, on the 7th.

Excessive precipitation occurred as follows: Bayonne, 7th, 3.47 inches; Bergen Point, 7th, 3.82 inches; Bridgeton, 7th, about 2.00 inches in 1 hour; Charlotteburg, 6-7th, 2.80 inches; Chatham, 7th, 3.05 inches; College Farm, 7th, 2.80 inches; Dover, 6-7th, 3.00 inches; Englewood, 7th, 4.23 inches; Jersey City, 7-8th, 3.74 inches; Lambertville, 7th, 2.95 inches; Mahwah, 7th, 2.56 inches; Morristown, 7th, 2.65 inches; Newark, 7th, 3.23 inches; New Brunswick, 7th, 2.78 inches; Paterson, 7th, 2.58 inches; Plainfield, 7th, 3.36 inches; Port Norris, 30th, 2.70 inches; Runyon, 6-7th, 3.27 inches; South Orange, 7th, 2.50 inches.

Measurable precipitation occurred on an average of 13 days.

NOTE.—The total precipitation for the following-named stations, Pompton Plains, Boonton, Mahwah, Little Falls and Chatham, published on pages 37 and 40 of this report, includes large amounts that actually occurred on April 30.

**SUNSHINE AND CLOUDINESS.**

The average number of clear days was 9; partly cloudy, 10; cloudy, 12. The duration of sunshine was below the normal, the following percentages of the possible amount being reported: Atlantic City, 53; Hightstown, 48; Jersey City, 47.

**WIND.**

Easterly winds prevailed. Brisk to high winds were reported on the 1st, 3d, 7th, 10th, 12th, 19th and 30th. The fol-

lowing maximum velocities (for 5-minute periods) were reported: Atlantic City, 30 miles per hour, from the southeast, on the 7th; Jersey City, 53 miles per hour, from the west, on the 3d.

#### MISCELLANEOUS PHENOMENA.

*Halos, solar.*—Cape May Court House, 16th; Oceanic, 5th.

*Halos, lunar.*—Burlington, Indian Mills, 12th; Oceanic, 11th, 12th; Trenton, 13th.

*Hail.*—Englewood, Jersey City, Oceanic, Phillipsburg, Rancocas, 2d; Moorestown, 17th.

*Thunderstorms* (dates and number of reports).—2d, 19; 7th, 19; 8th, 15; 9th, 4; 10th, 1; 13th, 4; 14th, 24; 17th, 15; 19th, 1; 21st, 3; 22d, 13; 26th, 15; 27th, 2; 28th, 1; 30th, 2. Thunderstorms occurred at Weather Bureau stations as follows: Atlantic City, 2d, 14th, 22d; Cape May, 2d, 7th, 22d.

*Fog.*—Asbury Park, 19–23, 25, 26, 29; Atlantic City, 7, 8, 20, 21, 23–26, 28, 29; Bayonne, 21–26, 28–30; Bergen Point, 20–22, 25, 26, 28, 29; Boonton, Pompton Plains, 23, 26, 29, 30; Burlington, 24, 26; Cape May, 7, 8, 18–25, 28, 29; Englewood, 20, 22–24, 26, 29; Flemington, 26, 29; Haddonfield, 19, 24, 26; Hammonton, 26; Hightstown, 23, 24, 30; Indian Mills, 23, 24, 26; Jersey City, 22, 23, 25; Long Branch, 19–23, 25, 26; Oceanic, 8, 20, 22, 23, 25, 28, 29; Paterson, 22, 23, 25, 29; Plainfield, 20, 22, 25, 28–30; Rancocas, 24–26, 30; Somerville, 20, 21, 23, 25, 26; Trenton, 23, 24, 26, 30; Tuckerton, 8, 24, 25, 28, 29; Woodbury, 20, 22, 24, 25, 28.

#### PRECIPITATION DATA FOR IMLAYSTOWN, MONMOUTH COUNTY, N. J

##### MONTHLY AND ANNUAL PRECIPITATION.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1887.	3.28	6.45	3.22	2.90	1.17	8.19*	6.81	2.12	5.92	2.68	1.74	6.00	50.48
1888.	5.51	2.57	7.00*	3.16	5.09	3.77	4.00	5.07	6.09	4.60	4.15	2.62	53.63
1889.	6.82*	2.18	4.20	5.26†	4.67	2.41	8.78	7.30	11.20*	3.49	7.19	1.08†	*64.67
1890.	2.08†	4.70	4.14	2.45	4.23	4.80	6.97	3.36	6.25	9.05*	0.98†	4.44	54.05
1891.	5.34	5.35	4.33	1.83	2.70	6.71	5.63	6.23	3.37	3.66	2.95	4.02	52.12
1892.	4.50	1.75	4.57	2.47	4.60	5.01	4.10	4.09	2.20	0.64†	8.33*	3.04	45.30
1893.	2.56	5.45	6.03	5.01*	3.11	2.96	3.68	4.30	3.54	1.77	3.83	4.04	50.18
1894.	2.19	3.93	2.05	4.23	8.12*	2.51	1.69†	2.23	8.74	6.29	3.82	3.86	49.66
1895.	3.60	0.73†	4.66	3.91	3.25	2.52	3.81	0.66†	1.47	2.63	2.74	2.17	†32.15
1896.	2.11	6.08	4.56	1.43†	3.51	3.46	3.91	0.70	3.78	1.82	3.05	1.60	36.01
1897.	2.88	3.70	1.90†	3.59	5.34	4.57	10.18*	3.14	1.44	2.94	3.99	4.40	48.07
1898.	4.20	2.98	4.88	3.17	7.16	1.38†	5.51	6.88	2.18	4.65	6.01	3.38	53.28
1899.	4.15	6.50*	5.95	1.59	1.57	2.95	4.44	3.80	5.07	3.56	2.37	1.38	43.33
1900.	3.30	4.61	3.53	2.03	4.76	1.96	6.45	2.43	2.12	6.28	4.05	2.28	43.80
1901.	2.55	1.18	3.55	5.82	5.31	1.74	3.38	9.57	3.80	2.07	3.31	6.60*	48.88
1902.	2.93	6.19	4.44	3.03	1.77	5.11	1.87	3.93	3.87	6.74	2.46	6.39	48.73
1903.	3.62	4.17	4.30	4.58	0.36†	6.94	6.72	5.41	3.22	6.23	1.09	3.67	50.31
1904.	3.38	2.87	4.76	2.79	4.30	2.18	4.62	10.09*	8.48	3.25	1.92	3.12	51.76
1905.	2.58	2.69	4.62	2.96	1.55	1.75	2.87	4.45	5.76	3.79	2.20	3.36	38.58
1906.	2.20	1.94	5.25	2.67	4.37	5.48	7.74	8.11	1.27†	4.65	1.30	3.29	48.27
1907.	4.44	2.30	2.58	3.66	3.07	5.22	3.04	4.01	7.29	4.11	4.61	4.04	48.37
M'ns	3.53	3.73	4.31	3.31	3.81	3.89	5.06	4.66	4.63	4.21	3.48	3.56	48.18

\* Greatest on record.

† Least on record.

§ Estimated.

Greatest annual amount, 64.77 inches, 1889; least, 32.15 inches, 1895.

Greatest monthly amount, 11.29 inches, September, 1889; least, 0.36 of an inch, May, 1903.

Greatest amount in 24 consecutive hours, or less, 7.08 inches, September 14–15, 1904. Duration, 7 to 10 p. m., 14th; 3 to 5 a. m., 15th.

Number of times in 252 months that the precipitation has exceeded the monthly normal: January, 9; February, 10; March, 12; April, 8; May, 11; June, 9; July, 9; August, 7; September, 9; October, 9; November, 9; December, 10; total, 112.

Number of months with precipitation more than 10 inches, 3; less than 1 inch, 6.

Average annual number of days with measurable precipitation, 110; greatest annual number, 140 (1889); least, 92 (1892).

Average precipitation for spring, 11.43 inches; summer, 13.61 inches; autumn, 12.32 inches; winter, 10.82 inches.

Total precipitation for the wettest spring, 1888, 15.25 inches (1898, 15.21 inches); wettest summer, 1906, 21.33 inches; wettest autumn, 1889, 21.40 inches; wettest winter, 1901–2, 15.72 inches.

Total precipitation for the driest spring, 1887, 7.29 inches; driest summer, 1894, 6.43 inches; driest autumn, 1895, 6.84 inches; driest winter, 1900–1, 6.01 inches.

Periods during the growing season with a marked deficiency in precipitation, with the total rainfall for each period: 1893, May 13–June 10, 0.65 inch; 1895, July 31–September 9, 0.66 inch; 1896, July 30–September 4, 0.94 inch; 1899, April 16–May 10, 0.72 inch; 1903, April 17–June 11, 1.09 inches; 1904, June 8–July 4, 0.28 inch. Longest period without measurable precipitation, August 5–26, 1895, 22 days.

*Snowfall* (1893–1907).—Average monthly amounts: January, 7.7 inches; February, 9.4; March, 4.1; April, 0.8; November, 1.0; December, 3.9; average annual amount, 26.9 inches.

Greatest annual amount, 45.8 inches, 1907; least, 14.2 inches, 1901; greatest winter amount (December, January and February), 33.3 inches, 1896–7; least, 6.0 inches, 1895–6; greatest monthly amount, 34.7 inches, February, 1899.

#### CORRECTIONS.

January, February and March, 1908.—The precipitation data for College Farm, pages 5, 8, 13, 16, 21 and 24, except the total snowfall, should be omitted.

February, 1908.—The total snowfall for Imlaystown and Cape May Court House, page 13, should be 6.1 inches and 4.0 inches, respectively.

March, 1908.—The mean temperature for Newark, page 21, should be 41.4°, and the departure from the normal, +2.9°. The temperature departure for Plainfield should be +1.8°. The mean temperature for Brown's Mills should be 42.0°. The mean maximum temperature for Newark, page 22, should be 50.1°.

April, 1908.—The last sentence of the first paragraph, in the General Summary, page 27, should read "The duration of sunshine exceeded the normal."

#### COMPARATIVE STATE DATA FOR MAY.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1885.....	57.3	.....	.....	2.62
1886.....	58.8	87	36	6.07
1887.....	63.3	94	35	1.37
1888.....	58.6	91	26	4.92
1889.....	62.3	94	32	4.09
1890.....	60.7	87	33	4.24
1891.....	59.5	93	24	2.97
1892.....	60.1	90	30	5.04
1893.....	59.4	95	29	4.07
1894.....	61.4	93	30	7.72
1895.....	60.9	102	28	2.85
1896.....	65.3	98	29	3.21
1897.....	60.6	87	29	5.68
1898.....	58.5	93	29	7.00
1899.....	61.1	94	29	1.92
1900.....	60.9	98	26	4.71
1901.....	58.6	90	29	5.60
1902.....	60.3	95	29	2.04
1903.....	62.7	98	21	0.59
1904.....	62.8	97	31	2.60
1905.....	61.4	89	22	1.71
1906.....	61.0	94	24	4.21
1907.....	55.4	91	22	5.05
1908.....	61.6	95	29	7.10



CLIMATOLOGICAL DATA FOR MAY, 1908.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number rainy days.	Number clear days.	Number partly cloudy days.		Number cloudy days.	Prevailing direction of wind.
THE HIGHLANDS & KITTATINNY VAL.																				
Layton.....	Sussex.....	550	9	59.3	+1.6	87	28	20	5	48	5.73	+3.01	1.66	0	13	8	10	1	ne.	Warren C. Hursh.
Sussex.....	do.....	442	14	61.0	+0.9	88	28	34	3	41	6.41	+2.94	1.55	0	12	9	9	13	sw.	Prof. W. H. Seeley.
Culver's Lake.....	do.....	848	7	.....	.....	.....	.....	34	3	.....	7.20	+1.04	2.08	T.	17	11	10	9	s.	B. E. Riker.
Newton.....	do.....	678	28	60.0	+0.7	89	25	33	2	44	7.10	+3.01	1.71	0	13	10	10	11	e.	B. H. Kienbaum.
Charlotteburg.....	Passaic.....	719	16	59.4	+1.9	85	*24	30	2	37	7.85	+3.56	2.80	0	11	10	10	11	w.	G. S. Briggs.
Pompton Plains.....	Morris.....	195	6	.....	.....	.....	.....	.....	.....	.....	10.31	.....	1.98	0	16	.....	.....	.....	e.	M. S. Taylor.
Boonton.....	do.....	413	11	.....	.....	.....	.....	.....	.....	.....	8.85	+2.61	2.15	0	14	.....	.....	.....	ne.	F. G. McIntosh.
Dover.....	do.....	575	24	59.6	+1.0	88	*27	34	2	39	7.12	+3.67	3.00	0	15	7	10	14	.....	William C. Harris.
Belvidere.....	Warren.....	289	18	62.0	+1.2	89	*13	36	*2	42	7.52	+3.55	1.96	0	17	10	8	13	.....	Samuel J. Hixson.
Phillipsburg.....	do.....	196	6	62.1	+1.1	90	28	38	*2	38	6.34	+2.17	1.63	T.	16	10	7	14	e.	D. W. Smith.
THE RED SAND STONE PLAIN.																				
Mahwah.....	Bergen.....	70	6	.....	.....	.....	.....	.....	.....	.....	10.19	.....	2.56	0	13	.....	.....	.....	e.	M. F. Brooks.
River Vale.....	do.....	70	17	61.1	+2.2	88	27	32	4	41	8.87	+4.66	.....	0	11	10	9	12	se.	G. S. M. Holdrum.
Paterson.....	Passaic.....	110	32	62.6	+1.3	91	27	36	2	44	8.40	+4.30	2.58	0	11	7	16	8	sw.	H. A. Probert.
Englewood.....	Bergen.....	135	18	58.4	+1.4	84	*13	35	3	41	9.44	+5.66	4.23	0	12	9	5	17	ne.	William C. Tucker.
Little Falls.....	Passaic.....	175	6	.....	.....	.....	.....	.....	.....	.....	10.84	.....	2.43	0	15	.....	.....	.....	w.	F. Farnes.
Morristown.....	Morris.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7.32	.....	2.65	0	12	12	6	13	e.	C. Wigley.
South Orange.....	Essex.....	200	39	60.6	+0.6	86	27	38	*2	38	8.17	+4.75	2.50	T.	12	8	10	13	e.	W. J. Chandler, M. D.
Chatham.....	Morris.....	234	6	.....	.....	.....	.....	.....	.....	.....	8.67	.....	3.05	0	14	.....	.....	.....	e.	M. A. Butler.
Newark.....	Essex.....	140	66	62.0	+1.4	88	27	38	3	37	9.01	+5.09	3.23	0	10	7	10	14	ne.	Wm. Wiener.
New York, N. Y.....	New York.....	314	38	61.3	+2.0	86	27	40	3	33	9.10	+5.92	4.17	0	12	7	10	14	ne.	U. S. Weather Bureau.
Jersey City.....	Hudson.....	15	3	62.6	.....	91	*24	40	*2	39	9.09	.....	3.74	T.	13	7	12	12	ne.	Samuel K. Pearson, Jr.
Bayonne.....	do.....	50	18	61.1	+0.2	89	24	40	*2	35	9.23	+5.57	3.47	0	16	9	9	13	se.	John H. Eadie.
Bergen Point.....	do.....	37	11	60.9	+0.8	88	27	39	3	37	9.09	+6.40	3.82	T.	15	5	19	7	se.	Dr. W. H. Mitchell.
Elizabeth.....	Union.....	33	29	63.0	+0.8	91	*13	40	*3	37	8.00	+4.14	.....	0	11	10	11	10	e.	W. M. Oliver.
Plainfield.....	do.....	100	18	60.8	+0.1	89	*13	34	2	42	7.40	+3.45	3.36	0	12	11	9	11	sw.	John Neagle.
Somerville.....	Somerset.....	76	29	62.2	+1.4	92	13	35	2	44	7.15	+3.20	2.25	0	13	10	5	16	sw.	Peter Hardeastle.
Flemington.....	Hunterdon.....	187	11	62.4	+1.4	90	*13	36	2	38	9.02	+5.41	1.72	0	16	10	9	12	e.	H. E. Deats.
New Brunswick.....	Middlesex.....	61	55	61.0	+0.4	87	*24	36	2	41	6.44	+2.55	2.78	0	12	10	11	10	e.	Wm. T. Woerner.
College Farm.....	do.....	100	13	60.6	+0.7	87	27	36	3	42	7.23	+3.36	2.80	0	12	10	11	10	e.	George G. Manning.
Rumson.....	do.....	18	1	.....	.....	.....	.....	.....	.....	.....	7.17	.....	3.27	0	15	10	12	9	.....	J. H. Cottrell.
Lambertville.....	Hunterdon.....	95	22	62.8	+1.1	89	28	39	*2	38	9.40	+5.09	2.95	0	12	10	12	9	sw.	William R. Bowne.
THE SOUTHERN INTERIOR.																				
Hightstown.....	Mercer.....	85	17	62.3	+0.9	89	27	38	*2	42	7.18	+2.97	2.07	0	12	10	8	13	e.	Ernst Wenger.
Trenton.....	do.....	60	39	63.0	+0.1	89	28	39	10	33	6.80	+2.76	2.10	0	10	7	11	13	ne.	E. R. Cook.
Imlaystown.....	Monmouth.....	106	22	62.8	+0.6	91	27	38	3	.....	7.67	+3.86	2.00	0	14	10	8	13	e.	F. C. Frie, M. D.
Burlington.....	Burlington.....	12	16	.....	.....	.....	.....	.....	.....	.....	7.24	+3.06	2.21	0	16	12	6	13	e.	D. S. B. McCoy.
Rancocas.....	do.....	68	23	.....	.....	90	*27	42	*1	.....	6.28	+2.37	1.76	T.	15	11	5	15	e.	Spencer Haines.
Brown's Mills.....	do.....	71	2	64.2	.....	95	*26	35	4	47	7.21	.....	1.90	0	15	.....	.....	.....	e.	M. W. Hargrove.
Moorestown.....	do.....	71	44	62.6	+1.6	88	28	39	2	36	7.39	+3.21	2.20	0	16	10	8	13	e.	John C. Beans.
Philadelphia, Pa.....	Philadelphia.....	117	38	63.6	+1.4	89	28	42	1	30	6.85	+3.65	2.70	0	14	7	11	13	ne.	U. S. Weather Bureau.
Toms River.....	Ocean.....	33	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	F. C. Bunell.
Haddonfield.....	Camden.....	75	.....	63.0	.....	90	28	39	1	39	6.16	.....	2.08	0	16	7	11	13	se.	C. F. Richardson.
Indian Mills.....	Burlington.....	76	8	63.5	+1.3	91	27	37	11	45	7.14	+4.22	2.01	0	15	10	8	13	e.	James Armstrong.
Clayton.....	Gloucester.....	126	12	63.4	+1.9	92	28	40	1	37	6.29	+3.23	2.22	0	10	10	9	12	se.	Wm. T. Farley.
Hammonton.....	Atlantic.....	80	11	.....	.....	.....	.....	.....	.....	.....	6.10	+2.23	2.09	0	14	6	16	9	.....	Orville Bassett.
Tuckerton.....	Ocean.....	23	11	61.0	+1.3	89	*13	36	11	45	5.50	+2.18	1.60	0	14	5	18	8	se.	F. R. Austin.
Egg Harbor City.....	Atlantic.....	63	19	.....	.....	90	*12	42	*1	.....	6.84	+2.77	1.88	0	12	10	8	13	e.	Charles Sahlmann.
Friesburg.....	Salem.....	100	16	63.6	+2.0	90	28	40	*1	38	5.87	+2.32	2.28	0	13	12	8	11	w.	H. C. Perry.
Vineland.....	Cumberland.....	118	41	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Alfred Chalmers.
Canton.....	Salem.....	24	7	.....	.....	.....	.....	.....	.....	.....	6.05	+2.39	2.25	0	10	10	8	13	.....	J. H. Maskell.
Bridgeton.....	Cumberland.....	30	33	65.2	+0.6	92	*27	40	*1	41	7.73	+3.53	2.40	0	10	13	3	15	sw.	Henry A. Jorden.
Pleasantville.....	Atlantic.....	26	11	.....	.....	.....	.....	.....	.....	.....	5.41	+2.18	1.50	0	11	10	9	12	.....	L. Van Gilder.
Northfield.....	do.....	8	.....	.....	.....	.....	.....	.....	.....	.....	5.80	.....	1.66	0	14	.....	.....	.....	.....	Wm. L. Flick.
Port Norris.....	Cumberland.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	5.94	.....	2.70	0	14	.....	.....	.....	.....	J. H. Barraclough.
Woodbine.....	Cape May.....	43	17	62.8	+2.2	88	28	40	1	38	4.88	+0.79	1.77	0	13	10	11	10	s.	R. D. Maltby.
Cape May C. H.....	do.....	19	21	62.0	+1.3	88	28	41	11	34	4.62	+1.10	1.69	0	14	7	14	10	se.	L. T. Garretson.
THE SEA COAST.																				
Oceanic.....	Monmouth.....	16	22	60.2	+0.6	89	27	38	2	37	6.52	+2.66	2.20	0	16	12	8	11	se.	Prof. C. E. Dietz.
Long Branch.....	do.....	30	.....	60.2	.....	90	27	37	3	37	6.16	.....	1.79	0	10	7	17	7	sw.	B. B. Bobbitt.
Asbury Park.....	do.....	22	20	58.6	+0.4	88	27	41	3	35	5.99	+2.05	1.80	0	12	9	8	14	e.	B. H. Obert.
Atlantic City.....	Atlantic.....	16	35	58.5	+1.0	85	13	42	1	27	5.56	+2.56	1.52	0	14	6	10	15	sw.	Section Center.
Cape May City.....	Cape May.....	17	24	59.8	+1.2	82	13	42	1	28	4.39	+1.40	1.31	0	15	5	18	8	sw.	U. S. Weather Bureau.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date. † Not considered in averages. ‡ Published subject to correction.

[illegible]



# Total Monthly Precipitation, May, 1908.



## TOTAL PRECIPITATION FOR MAY, 1908.

Stations.	Day of month.																															Total.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
THE HIGHLANDS & KITTA-TINNY VALLEY.																																	
Layton .....	.05	.....	.....	.....	.....	.05	1.66	.30	.07	.08	.....	.....	.....	.....	.55	.....	.....	.....	.....	.35	.27	.57	.03	.....	.....	.30	.....	.....	.....	.....	1.45	.....	5.73
Sussex .....	.17	.08	.....	.....	.....	.....	1.55	.55	.39	.04	.....	.....	.....	.....	.44	.....	.....	.....	.....	.57	.16	.83	.....	.....	.....	.21	.....	.....	.....	.....	1.42	.....	6.41
Culver's Lake .....	T.	.19	.03	.....	.....	.01	2.08	.26	.32	.08	.....	T.	.01	.....	.61	.....	.....	.....	.....	.63	.45	.65	.04	.....	T.	.35	.....	.01	1.42	.06	7.10	.....	
Newton .....	.15	.05	.....	.....	.....	T.	1.71	.36	.38	.10	.....	.....	.....	.01	.59	.....	.....	.....	.....	.50	.33	.76	.....	.....	.50	.....	.....	.....	.....	1.66	T.	7.02	
Charlotteburg .....	.17	.....	.....	.....	.....	*	2.80	.....	.15	.14	.....	.....	.....	T.	.46	.....	.....	.....	.....	.85	1.07	.04	.....	.....	.55	.....	.....	.....	.....	1.62	.....	7.85	
Pompton Plains .....	1.84	.....	* .14	.....	.....	*	.42	1.74	.14	.05	.....	.....	.....	.07	.36	.....	.....	.....	*	.34	.27	1.42	.52	.....	1.02	.....	.....	.....	.....	1.98	.....	10.31	
Boonton .....	1.40	.09	.....	.....	.....	*	.45	2.15	.14	.04	.....	.....	.....	.02	.51	.....	.....	.....	*	.35	.37	1.09	.19	.....	.....	*	.42	.....	T.	1.63	.....	8.85	
Dover .....	.02	.16	.....	.....	.....	*	3.00	.10	.15	.....	.....	.....	.....	.32	.40	.04	.....	.....	.....	*	1.11	.06	.....	.....	.....	.42	.....	.....	.04	1.90	.....	7.72	
Belvidere .....	.28	.05	.....	.....	.....	*	1.96	.48	.03	.20	.....	.....	.....	.59	.92	.....	.05	.....	.....	.24	.19	.58	.03	.....	.....	.....	.58	.....	.....	1.34	.....	7.52	
Phillipsburg .....	T.	.28	T.	.....	.....	.28	1.63	.31	.06	.14	.....	.....	.....	.89	1.19	.....	.04	.....	*	.43	.07	.29	.06	.....	.....	T.	.....	.....	.01	.66	.....	6.34	
THE RED SAND STONE PLAIN.																																	
Mahwah .....	2.10	.15	.....	.....	.....	*	.28	2.56	.....	.07	.....	.....	.....	.17	.15	.....	.....	.....	.....	.31	.20	1.98	.32	.....	.....	.12	.....	.....	.....	1.78	.....	10.19	
River Vale .....	.40	.....	.....	.....	.....	*	.29	2.40	.20	.....	.....	.....	.....	.80	.....	.....	.....	.....	.....	*	2.96	.....	.....	.....	.....	.26	.....	.....	.....	1.85	.....	8.87	
Paterson .....	T.	.04	.....	.....	.....	.03	2.58	1.05	.04	.....	.....	.....	.....	T.	.33	.....	.....	.....	T.	.68	.23	1.61	.....	.....	.....	.25	.....	.....	T.	1.56	T.	8.40	
Englewood .....	T.	.09	.....	.....	.....	.07	4.23	2.16	.03	T.	T.	.....	.....	.36	.31	.....	.....	.....	.....	.92	.42	.87	.....	.....	.....	.06	.....	.....	.....	1.92	.....	9.44	
Little Falls .....	1.92	.05	.....	.....	.....	*	.25	2.43	.25	.09	.....	.....	.....	.01	.41	.....	.....	.....	*	.45	.33	1.90	.35	.....	.....	.37	.....	.....	.....	2.03	.....	10.84	
Morristown .....	.07	.07	.....	.....	.....	.35	2.65	.....	.32	.....	.....	.....	.....	.19	.71	.....	.....	.....	.....	.42	.23	.15	.....	.....	.....	.08	.....	.....	.....	1.15	.....	7.32	
South Orange .....	T.	.03	.....	.....	.....	.12	2.50	.58	T.	.....	.....	.....	.....	.15	.30	.....	T.	.....	T.	.90	.20	1.65	.05	.....	.....	.12	.....	.....	.....	1.57	T.	8.67	
Chatham .....	1.34	* .05	.....	.....	.....	*	.20	3.05	.21	.....	.....	.....	.....	.30	.94	.....	.....	.....	.....	.24	.40	.58	.10	.....	.....	.21	.....	.....	.....	1.05	.....	9.01	
Newark .....	T.	.....	.....	.....	.....	.04	3.23	.48	T.	.....	.....	.....	.....	.19	.33	.....	.....	.....	T.	.77	.51	1.63	.....	.....	.....	.30	.....	.....	.....	1.53	.....	9.01	
New York, N. Y. ....	T.	.06	.....	.....	.....	.05	4.16	.10	.01	T.	T.	.....	.....	.45	.29	.....	.....	.....	T.	.88	.34	.86	.....	.....	.....	.02	.....	.....	.....	1.88	.....	9.10	
Jersey City .....	T.	.07	.....	.....	.....	.05	3.36	.67	.04	.02	.....	.....	.....	.41	.42	.....	.....	.....	T.	.73	.23	1.30	.....	.....	.....	.05	.....	.....	.....	1.74	.....	9.09	
Bayonne .....	.06	.....	.....	.....	.....	.05	3.47	.84	.07	.03	.....	.....	.....	.44	.38	T.	.....	.....	T.	.57	.44	1.01	.01	.....	.....	.01	.02	.....	T.	1.61	.02	9.23	
Bergen Point .....	T.	.04	.....	.....	.....	*	3.82	.67	*	.04	.....	.....	.....	.65	.52	.02	.....	.....	.....	.48	.45	1.05	.....	.....	.....					1.42	.06	9.09	
Elizabeth .....	T.	.....	.....	.....	.....	*	3.82	.67	*	.04	.....	.....	.....	* 1.27	.....	T.	.....	.....	.....	*	2.83	.....	.....	.....	.....	T.	.....	T.	.....	1.14	.....	8.60	
Plainfield .....	T.	.04	.....	.....	.....	.12	3.36	.34	.15	.....	.....	.....	.....	.35	.75	.....	.....	.....	T.	.27	.21	.87	.....	.....	.....					.03	.91	7.40	
Somerville .....	.02	.....	.....	.....	.....	.10	2.25	.49	.15	.10	.....	.....	.....	.52	.06	.....	.....	.....	.04	.85	.03	.08	.....	.....	.....	.....	.....	.....	.....	.85	.....	7.15	
Flemington .....	.02	.02	.....	.....	.....	.07	1.72	.32	.42	.04	.....	.....	.....	.60	1.39	.02	.89	.....	.....	1.28	.13	.85	.02	.....	.....	.....	.....	.....	T.	1.23	.....	9.02	
New Brunswick .....	.03	.....	.....	.....	.....	.10	2.78	.05	.20	.....	.....	.....	.....	.15	1.12	.....	.03	.....	T.	.16	.12	.85	.....	.....	.....	.....	.....	.....	.....	.85	.....	6.44	
College Farm .....	.04	.....	.....	.....	.....	.03	2.80	.31	.20	.07	.....	.....	.....	.24	1.34	T.	T.	.....	.....	.34	.11	1.02	T.	.....	.....	.....	.....	T.	.....	.73	.....	7.23	
Rumyon .....	.10	.03	.....	.....	.....	.37	2.18	.18	T.	*	.04	.....	.....	.05	1.28	.04	.....	.....	.....	.33	*	.95	.....	.....	.....	.....	.....	.....	.....	.02	.88	.....	7.17
Lambertville .....	.02	.....	T.	.....	.....	.13	2.95	.28	.15	.....	.....	.....	.....	.15	1.28	.55	.....	.....	.....	1.76	T.	.64	.....	.....	.....	.....	.....	.....	.....	1.45	.....	9.40	
THE SOUTHERN INTERIOR.																																	
Hightstown .....	.05	.....	.....	.....	.....	.05	2.07	.29	.05	.....	.....	.....	.....	.09	.88	.....	.19	.....	.....	1.15	.13	1.27	.....	.....	.....	.....	.....	.....	.....	.96	.....	7.18	
Trenton .....	T.	.....	T.	.....	.....	.21	2.10	T.	.06	.....	.....	.....	.....	T.	.61	T.	.20	.....	*	1.52	*	1.28	T.	.....	.....	.....	.....	T.	T.	.82	.....	6.80	
Imlaystown .....	.19	.....	.....	.....	.....	*	*	2.30	.06	.05	.....	.....	.....	.08	.08	.....	.21	.....	.....	.84	.08	.88	.....	.....	.....	.....	.....	.....	.....	2.00	.....	7.67	
Burlington .....	.10	.01	.11	.25	2.21	.02	.05	.....	.....	.....	.....	.....	.18	.16	.66	.....	.....	.73	*	.93	.73	.03	.....	.....	.....	.....	T.	T.	.....	1.07	.....	7.24	
Rancocas .....	T.	.10	.05	.15	1.11	1.76	.....	.62	.....	.....	.....	.....	.12	.60	.55	.....	.25	.....	.37	.06	.63	.....	.....	.....	.....	.....	.01	1.50	T.	.....	6.28		
Brown's Mills .....	.28	.....	.....	.....	.....	*	3.00	.90	.22	.....	.....	.....	.....	.10	.10	.30	.33	.....		.30	.18	.....	.....	.....	.....	.....	.....	.....	.....	1.80	.....	7.21	
Moorestown .....	.13	.03	.06	.18	2.15	.06	.06	.....	.....	.....	.....	.....	.....	.11	.59	.....	.78	T.	.87	.18	.67	.....	.....	.....	.....	.....	.....	.01	1.51	T.	.....	7.39	
Philadelphia, Pa. ....	.07	.....	.06	.18	1.11	2.69	T.	.09	.....	.....	.....	.....	.01	.40	.46	.....	.....	.....	.04	.04	.09	1.23	.....	.....	.....	.....	T.	T.	1.74	T.	.....	6.85	
Toms River .....	.15	.....	.11	.15	.21	2.08	.05	.09	.....	.....	.....	.....	.....	.04	.55	.01	.....	.....	.....	.28	.15	.37	.01	.....	.....	.....	.....	.01	1.90	.....	.....	6.16	
Haddonfield .....	.20	.17	.18	.13	2.01	.09	.10	.09	.....	.....	.....	.....	.....	.07	.44	.....	.....	.....	.....	.65	.14	.46	.....	.....	.....	.....	.....	.....	.....	2.00	.....	7.14	
Indian Mills .....	.42	.20	.....	.22	T.	.46	2.12	.13	T.	.15	.....	T.	.....	T.	.40	.....	.....	.....	T.	.....	.20	.19	.....	.....	.....	.....	.....	.....	T.	2.22	.....	6.29	
Clayton .....	.20	.....	.23	.23	.03	1.49	.05	.14	.....	.....	.....	.....	.....	.07	.43	.....	.....	.....	*	.55	.10	.48	.....	.....	.....	.....	.....	.....	.....	2.09	.....	6.10	
Tuckerton .....	.20	.20	.16	.20	.10	1.35	.18	.04	.....	.....	.....	.....	.....	.13	.61	.....	.....	.....	.....	.42	.20	.30	.01	.....	.....	.....	.....	.....	.....	1.60	.....	5.50	
Egg Harbor City .....	.17	.....	.36	.....	.....	*	1.83	.18	.04	.....	.....	.....	.....	.09	.40	.....	.....	.....	.....	.59	.34	.96	.....	.....	.....	.....	.....	.....	.....	1.88	.....	6.84	
Friesburg .....	.17	.....	.12	.19	.30	1.75	.....	.....	.13	.....	.....	.....	.....	.03	.39	.....	.....	.....	.....	.02	.11	.35	.....	.....	.....	.....	.....	.03	2.28	.....	5.87		
Vineland .....	.....	.....	.....	.....	.....	*	1.91	.....	.08	.....	.....	T.	T.	.38	.34	.....	.....	.....	T.	.....	.53	.38	.....	.....	.....	.....	.....	T.	.....	2.25	.....	6.05	
Canton .....	.12	.....	.06	.....	.....	.....	3.6	2.40	.....	.10	.....	.....	.....	.13	1.28	.....	.....	.....	.....	.50	.33	.....	.....	.....	.....	.....	.....	.....	T.	2.40	.....	7.73	
Bridgeton .....	.15	.....	.07	.09	.12	1.10	.....	T.	.....	.10	.....	.....	.....	.12	1.14	.....	.....	.....	T.	.30	.22	.60	.....	.....	.....	.....	.....	.....	.....	1.50	.....	5.41	
Pleasantville .....	.15	.....	.12	.13	.19	.80	.13	.....	.....	.....	.....	.....	.....	.0																			



U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR JUNE, 1908

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

---

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

---

UNDER DIRECTION OF

WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



BOSTON, MASS.

WEATHER BUREAU OFFICE

JULY 23, 1908

Monthly Mean Isotherms and Prevailing Winds, June, 1908.





U. S. DEPARTMENT OF AGRICULTURE,  
**CLIMATOLOGICAL SERVICE**  
 OF THE  
**WEATHER BUREAU.**

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,  
 LEVI A. JUDKINS, Section Director.

VOL. XXI. ATLANTIC CITY, N. J., JUNE, 1908. No. 6.

**GENERAL SUMMARY.**

Features of June, 1908, were the exceptionally high percentage of sunshine, the warm wave of the third decade, the unusually small number of rainy days, and the very light wind movement.

The mean temperature, ranging from 66°, in portions of Passaic and Sussex counties, to nearly 74°, in parts of Union County, was slightly above the normal for the State as a whole. The local departures of monthly mean temperature from the normal were moderate as a rule, the most pronounced excess, about 2.5° per day, occurring in portions of Essex and Union counties. A slight deficiency in temperature was reported from stations in Bergen and Cumberland counties. The highest temperatures of the month, generally exceeding 90°, occurred for the most part on the 20th and 24th, and the lowest, ranging from 35° to 53°, on the 3d and 7th. The nights were agreeably cool during a large part of the month. Brief periods of excessive mid-day heat occurred in both the first and second decades. The most pronounced warm wave, however, began on the 20th and continued almost without interruption to the close of the month, the daily maximum temperatures in the interior being near, or above, 90° much of the time during this decade.

The average rainfall for the State was the smallest reported for June since 1901. The precipitation occurred largely in the form of local showers and thunderstorms, resulting in an uneven geographical distribution. There was also an irregular distribution of rainfall thru the month, 90 per cent of the total occurring during a single storm, in the middle of the second decade. A marked deficiency was reported over much the greater portion of the State, particularly over parts of Atlantic, Cape May and Ocean counties, and the coast of Monmouth County, where the monthly rainfall was from 2.50 to 3.00 inches less than the normal. The region of heaviest monthly precipitation embraced portions of Cumberland, Essex, Mercer and Passaic counties, and the western part of Monmouth County, where more than 4 inches were received. Less than 2 inches of rain occurred over portions of Bergen, Hunterdon and Somerset counties, in the interior, and less than 1 inch over a large part of the region immediately adjoining the eastern coast. Generally dry weather prevailed thru the first two weeks of the month, the droughty conditions being temporarily broken

in most localities by heavy showers on the 15th and the early morning of the 16th. During the remainder of the month the weather was practically rainless over a large part of the southern counties, and only occasional, insufficient moisture was received over the northern counties. At the close of the month there was a general need for rain.

**TEMPERATURE.**

The monthly mean, 69.9°, was 0.7° above the normal. The mean maximum was 82.2°, the mean minimum 57.6°, and the mean daily range 24.6°.

The means for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley, 68.1°, +0.7°; Red Sand Stone Plain, 70.7°, +1.2°; Southern Interior, 70.5°, +0.2°; Sea Coast, 68.8°, +0.7°.

The highest monthly mean was 73.6°, at Elizabeth, and the lowest, 66.1°, at Layton, the range of monthly mean temperature being 7.5°.

The highest temperature, 99°, occurred at Brown's Mills, on the 23d and 24th, and at Elizabeth, on the 24th, and the lowest, 35°, at Layton, on the 3d, the range within the State being 64°.

The greatest local monthly range, 59°, occurred at Brown's Mills, and the least, 35°, at Cape May.

The greatest daily range, 52°, occurred at Brown's Mills, on the 7th.

**PRECIPITATION.**

The average, 2.32 inches, was 1.35 inches below the normal, the averages for the various districts, with the departures from the normal, being as follows: The Highlands and Kittatinny Valley, 2.63 inches, —1.15 inches; Red Sand Stone Plain, 2.41 inches, —1.24 inches; Southern Interior, 2.33 inches, —1.26 inches; Sea Coast, 1.10 inches, —2.39 inches.

The greatest amount, 4.63 inches, occurred at Imlaystown, and the least, 0.77 of an inch, at Woodbine.

The greatest amount in 24 hours, 4.60 inches, occurred at Imlaystown, on the 15–16th.

Excessive precipitation occurred as follows: 15–16th, Im-laystown, 4.60 inches; Hightstown, 4.39 inches; Bridgeton, 4.35 inches (3.20 inches in 45 minutes); Charlotteburg, 4.23 inches; Newark, 3.95 inches; Clayton, 3.47 inches; Brown's Mills, 3.10 inches; South Orange, 3.02 inches; Burlington, 2.95 inches; Runyon, 2.74 inches; Indian Mills, 2.69 inches; Plainfield, 2.59 inches; Newton, 2.55 inches; Moorestown, 2.52 inches; Trenton, 2.50 inches.

Measurable precipitation occurred on an average of 4 days.

**SUNSHINE AND CLOUDINESS.**

The average number of clear days was 16; partly cloudy, 12; cloudy, 2. The following percentages of the possible amount of sunshine were reported: Atlantic City, 80; Hightstown, 79; Jersey City, 78.

**WIND.**

South to southwest winds prevailed. The following maximum velocities (for 5-minute periods) were reported: Atlantic City, 18 miles per hour, from the south, on the 19th; Cape

May, 24 miles per hour, from the northwest, on the 16th; Jersey City, 38 miles per hour, from the northwest, on the 24th.

#### MISCELLANEOUS PHENOMENA.

*Meteors.*—Haddonfield, 23d.

*Halos, lunar.*—Atlantic City, 4th; Oceanic, 10th.

*Fog.*—Cape May, 22d; Boonton, 24th; Burlington, 5th, 24th; Haddonfield, 5th, 12th; Hightstown, 5th; Moorestown, 5th, 6th, 12th, 18th; Trenton, 5th, 24th.

*Halos, solar.*—Atlantic City, Moorestown, Oceanic, 3d, 4th, 17th; Burlington, 4th, 17th; Cape May, Cape May Court House, Imlaystown, Jersey City, 17th; Haddonfield, 3d; Indian Mills, 3d, 17th.

*Thunderstorms* (dates and number of reports).—1st, 2; 2d, 1; 9th, 2; 10th, 2; 15th, 45; 20th, 1; 23d, 12; 24th, 24; 28th, 7; 29th, 7; 30th, 1. Thunderstorms occurred at Weather Bureau stations as follows: Atlantic City, 15th, 16th, 28th; Cape May, 15th, 20th, 30th.

#### DELAYED REPORTS.

Toms River, April, 1908.—Mean temperature (for 21 days), 50.6°, departure from the normal, +1.9°; highest, 82°, on the 23d; lowest, 18°, on the 5th; greatest daily range, 37°. Precipitation data incomplete. Number of clear days, 11; partly cloudy, 13; cloudy, 6. Prevailing wind direction, northwest.

Vineland, May, 1908.—Mean temperature, 63.5°, departure from the normal, +1.4°; highest, 90°, on the 27th and 28th; lowest, 39°, on the 2d; greatest daily range, 42°. Total precipitation, 5.80 inches, departure from the normal, +2.14 inches; greatest in 24 hours, 2.58 inches. Number of rainy days, 14; clear, 8; partly cloudy, 10; cloudy, 13. Prevailing wind direction, west.

#### CORRECTIONS.

May, 1908, report.—Somerville, page 37, total precipitation, 7.15 inches, should be 7.20 inches; departure from the normal should be +3.25 inches. Page 40, the amount for the 21st should be .08, and for the 22d, .88; total, 7.20 inches.

Woodbine, page 40, total precipitation, 4.83 inches, should be 4.88 inches.

Haddonfield, page 38, minimum temperature for the 16th should be 48°; monthly mean minimum temperature, 52.8°, should be 52.6°.

Under the heading "Precipitation Data for Imlaystown, Monmouth County, N. J.," page 36, the greatest annual amount, 64.77 inches, should be 64.67 inches, and the total precipitation for the wettest autumn, 1889, 21.40 inches, should be 21.97 inches.

#### PRECIPITATION DATA FOR TRENTON, MERCER COUNTY, N. J.

##### MONTHLY AND ANNUAL PRECIPITATION.

(From observations made by Mr. E. R. Cook.)

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1865	.....	.....	.....	.....	.....	.....	.....	.....	1.32	4.98	3.64	4.91	.....
1866	2.80	6.25*	2.21	4.02	4.68	3.66	4.26	4.80	7.88	4.63	4.30	5.33	54.82
1867	1.55	5.18	6.52	0.93†	5.32	9.19*	6.55	9.58	3.47	3.96	2.33	2.44	57.82
1868	4.30	2.80	2.99	4.53	6.98	6.23	4.10	3.91	7.25	3.11	5.00	5.13	56.33
1869	2.62	3.52	4.79	1.98	7.00	3.59	3.95	0.92†	1.98	6.62	4.22	6.37	47.56
1870	5.77	3.20	3.09	3.84	4.00	3.37	3.83	3.93	1.34	5.23	1.87	0.90	40.37
1871	2.03	4.07	5.50	2.14	2.33	5.87	6.54	5.14	1.57	5.99	4.83	3.34	49.35
1872	1.71	1.90	4.66	2.55	2.35	2.69	8.61	6.74	2.43	3.87	3.57	0.77	41.85
1873	5.36	3.02	1.48	4.29	3.11	1.49	2.47	10.01	3.44	5.40	4.95	1.79	46.81
1874	5.04	2.91	1.12†	10.12*	2.57	1.34	2.99	1.20	6.44	2.32	4.16	1.72	41.93
1875	3.43	4.35	5.06	4.13	1.99	4.54	3.57	14.08*	2.37	1.62	6.08	2.77	53.99
1876	0.22†	4.16	6.19	2.51	3.24	2.66	6.12	1.48	7.23	1.18	6.20	1.55	42.74
1877	2.10	1.31	5.65	2.75	0.91	4.45	7.40	5.47	3.45	6.50	8.41*	2.90	51.30
1878	7.55*	2.80	3.90	1.50	4.70	5.60	4.45	4.45	3.40	1.85	4.25	5.85	50.30
1879	2.70	2.30	5.05	5.80	1.50	8.58	4.31	9.23	1.42	0.47	2.13	6.42	49.91
1880	3.58	2.43	5.45	4.15	0.87	2.13	15.12*	3.47	4.52	3.50	2.18	2.89	50.29
1881	3.52	5.55	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1882	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1883	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1884	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1885	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1886	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1887	.....	.....	.....	.....	.....	.....	.....	.....	3.84	2.66	1.91	6.33	.....
1888	5.08	4.14	8.22	2.24	5.54	5.69	5.82	6.87	7.60	5.50	5.41	4.13	66.24
1889	4.40	3.36	5.67	5.00	4.47	2.67	9.86	7.23	10.13*	4.66	7.75	2.03	*67.23
1890	2.62	4.58	7.47	2.83	3.35	2.90	5.56	4.57	4.31	7.56*	1.10†	3.95	50.80
1891	6.73	4.41	4.22	1.99	3.12	3.59	5.92	5.89	2.82	3.83	2.87	3.52	48.91
1892	5.20	1.71	5.45	2.77	6.23	2.12	7.11	3.25	1.92	0.42†	7.86	1.49	45.53
1893	2.01	5.52	2.90	6.53	3.54	3.21	2.58	5.60	3.17	4.40	3.37	3.50	46.33
1894	1.75	3.30	1.56	2.92	10.75*	2.59	2.54	2.76	6.93	5.13	3.77	4.52	48.52
1895	5.26	1.76	3.67	5.56	2.81	2.56	3.42	2.19	0.86†	3.43	3.82	2.00	37.34
1896	1.32	5.36	4.85	1.62	4.13	3.72	5.56	1.21	4.12	1.97	2.66	1.73	38.25
1897	2.68	3.28	2.40	3.51	5.59	4.37	9.87	2.85	1.06	2.01	3.94	3.95	45.51
1898	4.50	3.10	3.06	3.57	6.83	1.62	3.19	7.08	1.35	5.53	6.72	3.86	50.21
1899	4.33	5.79	8.86*	1.67	1.81	2.79	4.31	5.19	4.06	1.59	2.07	1.86	44.33
1900	4.90	4.32	2.99	1.59	6.84	2.51	5.40	3.77	3.86	3.29	4.41	1.47	45.35
1901	1.97	1.06†	4.76	5.21	5.41	1.22†	6.60	10.13	4.13	1.44	2.72	7.54*	52.19
1902	3.36	5.94	3.40	3.20	2.48	5.87	5.80	10.67	5.88	7.32	1.99	4.86	60.77
1903	2.30	5.27	5.55	6.49	0.30†	8.09	4.52	5.50	4.50	6.84	1.63	3.20	54.19
1904	2.73	2.61	2.23	3.50	3.20	4.04	6.21	9.81	5.10	3.75	2.10	2.30	47.58
1905	2.68	2.15	3.00	2.80	1.72	2.28	2.44†	4.73	4.65	2.54	2.06	3.23	†34.22
1906	3.59	2.26	4.42	3.84	5.08	4.82	5.55	6.44	0.89	3.56	1.57	4.89	46.91
1907	4.30	2.53	2.65	3.01	6.27	5.26	3.74	3.74	6.81	2.98	5.52	4.81	51.62
M'ns	3.50	3.46	4.31	3.58	4.04	3.92	5.44	5.54	3.99	3.82	3.87	3.54	49.01

\* Greatest on record.

† Least on record.

#### COMPARATIVE STATE DATA FOR JUNE.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1885	.....	.....	.....	.....
1886	66.3	91	41	3.03
1887	68.2	97	42	6.77
1888	70.8	104	38	2.59
1889	69.9	92	37	3.73
1890	70.7	95	42	3.59
1891	69.7	102	38	2.92
1892	72.4	98	44	3.85
1893	69.7	103	40	2.95
1894	70.6	102	35	2.28
1895	71.7	103	39	3.24
1896	68.1	97	37	5.46
1897	66.1	95	35	3.38
1898	70.1	100	38	2.10
1899	72.3	103	38	2.50
1900	70.4	97	39	3.08
1901	70.0	103	35	1.57
1902	67.5	99	37	6.57
1903	64.0	92	37	7.68
1904	68.6	100	34	3.13
1905	68.3	96	35	3.43
1906	70.4	98	38	4.48
1907	64.7	96	31	4.41
1908	69.9	99	35	2.32



## CLIMATOLOGICAL DATA FOR JUNE, 1908.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.					Sky.				Prevailing direction of wind.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.		
THE HIGHLANDS & KITTATINNY VAL.																				
Layton .....	Sussex .....	550	9	66.1	+0.7	93	24	35	3	42	2.25	-2.35	1.67	0	4	17	12	1	s.	Warren C. Hursh.
Sussex .....	do .....	442	14	67.9	+0.6	92	24	40	3	36	2.20	-1.84	1.90	0	4	17	12	1	sw.	Prof. W. H. Seeley.
Conyer's Lake .....	do .....	848	7	.....	.....	.....	.....	.....	.....	.....	2.55	-1.82	2.04	0	5	18	11	1	s.	B. E. Riker.
Newton .....	do .....	678	28	67.7	0.0	93	24	40	3	37	2.90	-0.98	2.55	0	4	18	11	1	s.	B. H. Kienbaum.
Charlotteburg .....	Passaic .....	719	16	66.2	+1.1	91	24	39	7	42	4.43	-0.17	4.23	0	4	16	13	1	sw.	G. S. Briggs.
Pompton Plains .....	Morris .....	195	6	.....	.....	.....	.....	.....	.....	.....	2.43	.....	1.94	0	4	.....	.....	.....	.....	M. S. Taylor.
Boonton .....	do .....	413	11	.....	.....	.....	.....	.....	.....	.....	2.31	-0.76	1.74	0	5	.....	.....	.....	.....	F. G. McIntosh.
Dover .....	do .....	575	24	67.8	+0.7	92	24	40	3	41	2.91	-1.28	2.10	0	6	15	12	3	.....	William C. Harris.
Belvidere .....	Warren .....	289	18	70.2	+1.0	95	24	45	3	36	2.08	-1.73	1.74	0	2	17	12	1	.....	Samuel J. Hixson.
Phillipsburg .....	do .....	196	6	70.8	+0.7	97	24	45	3	33	2.12	-1.61	1.50	0	4	17	12	1	w.	D. W. Smith.
THE RED SAND STONE PLAIN.																				
Mahwah .....	Bergen .....	.....	6	.....	.....	.....	.....	.....	.....	.....	1.86	.....	1.78	0	3	.....	.....	.....	.....	M. F. Brooks.
River Vale .....	do .....	70	17	66.6	-0.7	94	24	39	3	43	2.52	-1.28	2.10	0	4	18	12	0	nw.	G. S. M. Holdrum.
Paterson .....	Passaic .....	110	32	71.7	+1.7	96	24	46	3	39	2.47	-1.24	2.10	0	5	10	19	1	s.	H. A. Probert.
Englewood .....	Bergen .....	135	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	William C. Tucker.
Little Falls .....	Passaic .....	175	6	.....	.....	.....	.....	.....	.....	.....	2.32	.....	1.92	0	5	.....	.....	.....	.....	F. Farns.
Morristown .....	Morris .....	372	.....	.....	.....	.....	.....	.....	.....	.....	2.73	.....	1.85	0	4	.....	.....	.....	.....	C. Wigley.
South Orange .....	Essex .....	200	39	69.4	+1.6	93	24	45	3	31	3.27	-0.36	3.02	0	3	16	12	2	nw.	W. J. Chandler, M. D.
Chatham .....	Morris .....	234	6	.....	.....	.....	.....	.....	.....	.....	2.04	.....	1.65	0	6	.....	.....	.....	.....	M. A. Butler.
Newark .....	Essex .....	140	66	71.6	+2.3	96	24	49	3	32	4.17	+0.55	3.95	0	3	14	14	2	sw.	Wm. Wiener.
New York, N. Y. ....	New York .....	314	38	71.6	+3.1	93	24	56	3	25	1.70	-1.56	1.63	0	6	13	15	2	s.	U. S. Weather Bureau.
Jersey City .....	Hudson .....	15	3	72.8	.....	95	24	53	*3	29	1.50	.....	1.48	0	3	14	13	3	s.	Samuel K. Pearson, Jr.
Bayonne .....	do .....	50	18	71.2	+1.5	95	24	49	7	33	2.00	-1.62	1.80	0	5	15	13	2	sw.	John H. Eadie.
Bergen Point .....	do .....	37	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. W. H. Mitchell.
Elizabeth .....	Union .....	33	29	73.6	+2.6	99	24	49	7	37	2.36	-1.32	2.20	0	4	18	11	1	sw.	W. M. Oliver.
Plainfield .....	do .....	100	18	69.9	+0.6	96	24	43	3	39	2.76	-1.29	2.59	0	6	18	10	2	sw.	John Neagle.
Somerville .....	Somerset .....	76	29	71.0	+1.4	98	24	45	3	38	1.68	-2.32	1.68	0	2	16	12	2	sw.	Peter Hardcastle.
Flemington .....	Hunterdon .....	187	11	70.6	+1.2	95	24	46	3	34	2.26	-1.52	2.08	0	4	18	10	2	w.	H. E. Deats.
New Brunswick .....	Middlesex .....	61	55	69.6	0.0	95	24	44	7	38	2.83	-0.98	2.38	0	4	18	11	1	w.	Wm. T. Woerner.
College Farm .....	do .....	100	13	69.6	+0.8	95	24	45	*3	34	2.34	-0.99	2.32	0	3	19	11	0	w.	George G. Manning.
Rumson .....	do .....	18	1	.....	.....	.....	.....	.....	.....	.....	2.74	.....	2.74	0	2	16	11	3	.....	J. H. Cottrell.
Lambertville .....	Hunterdon .....	95	22	71.2	+1.0	95	24	46	3	36	1.87	-2.57	1.53	0	4	18	10	2	sw.	William R. Bowne.
THE SOUTHERN INTERIOR.																				
Hightstown .....	Mercer .....	85	17	70.2	+0.9	96	24	45	7	38	4.39	+0.61	4.39	0	2	18	10	2	sw.	Ernst Wenger.
Trenton .....	do .....	60	39	71.1	-0.1	96	24	50	*2	29	2.61	-1.31	2.50	0	2	16	13	1	sw.	E. R. Cook.
Imlaystown .....	Monmouth .....	106	22	71.0	+0.3	98	24	45	7	39	4.63	+0.74	4.60	0	3	16	13	1	sw.	F. C. Price, M. D.
Burlington .....	Burlington .....	12	16	.....	.....	.....	.....	.....	.....	.....	2.96	-0.94	2.95	0	3	14	12	4	nw.	D. S. B. McCoy.
Rancocas .....	do .....	68	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Spencer Haines.
Brown's Mills .....	do .....	71	2	71.4	.....	99	*23	40	7	52	3.12	.....	3.10	0	3	.....	.....	.....	.....	M. W. Hargrove.
Moorestown .....	do .....	71	44	70.2	0.0	95	24	47	7	32	2.55	-1.15	2.52	0	4	18	7	5	s.	John C. Beans.
Philadelphia, Pa. ....	Philadelphia .....	117	38	73.1	+1.9	95	24	57	6	25	2.41	-0.89	2.35	0	5	13	14	3	s.	U. S. Weather Bureau.
Toms River, (f.) (t.) ..	Ocean .....	113	37	69.8	+0.8	96	24	40	7	36	1.52	-2.23	1.31	0	4	16	13	.....	sw.	F. G. Bunnell.
Haddonfield .....	Camden .....	75	.....	70.8	.....	95	24	46	7	34	2.09	.....	2.00	0	4	16	13	1	s.	C. F. Richardson.
Indian Mills .....	Burlington .....	76	8	70.6	+1.6	97	24	41	7	45	2.70	-1.50	2.69	0	4	15	14	1	sw.	James Armstrong.
Clayton .....	Gloucester .....	126	12	70.6	+1.2	94	24	45	7	35	3.53	-0.66	3.47	0	3	15	12	3	sw.	Wm. T. Farley.
Hammonton .....	Atlantic .....	80	11	.....	.....	.....	.....	.....	.....	.....	1.62	-1.37	1.56	0	3	16	14	0	.....	Orville Bassett.
Tuckerton .....	Ocean .....	23	11	69.0	+0.6	95	24	42	7	35	0.97	-3.07	0.62	0	3	18	11	1	sw.	F. R. Austin.
Egg Harbor City .....	Atlantic .....	63	19	.....	.....	95	24	45	7	.....	1.52	-2.11	1.24	0	4	16	13	1	sw.	Charles Saahmann.
Friesburg .....	Salem .....	100	16	70.8	+1.1	94	24	46	2	34	2.40	-1.71	2.35	0	3	11	17	2	s.	H. C. Perry.
Vineland .....	Cumberland .....	118	41	70.2	-1.4	96	24	43	7	39	1.95	-1.69	1.87	0	4	15	13	2	s.	Alfred Chalmers.
Canton .....	Salem .....	24	7	.....	.....	.....	.....	.....	.....	.....	2.03	-2.32	1.97	0	3	17	11	2	.....	J. H. Maskell.
Bridgeton .....	Cumberland .....	30	33	72.9	-0.4	97	24	47	7	36	4.40	+0.61	4.35	0	4	14	12	4	s.	Henry A. Jorden.
Pleasantville .....	Atlantic .....	26	11	.....	.....	.....	.....	.....	.....	.....	0.83	-2.91	0.63	0	3	15	13	2	.....	L. Van Gilder.
Northfield .....	do .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.90	.....	0.59	0	5	.....	.....	.....	.....	Wm. L. Flick.
Port Norris .....	Cumberland .....	8	.....	.....	.....	.....	.....	.....	.....	.....	1.98	.....	1.80	0	3	.....	.....	.....	.....	J. H. Barracough.
Woodbine .....	Cape May .....	43	17	69.0	+0.4	96	24	42	7	36	0.77	-2.48	0.57	0	2	19	9	2	s.	R. D. Maltby.
Cape May C. H. ....	do .....	19	21	69.7	-0.1	92	24	46	7	29	0.81	-1.98	0.40	0	3	17	10	3	s.	L. T. Garretson.
THE SEA COAST.																				
Oceanic .....	Monmouth .....	16	22	70.2	+0.7	97	24	46	7	30	1.22	-2.81	1.19	0	3	17	11	2	s.	Prof. C. E. Dietz.
Long Branch .....	do .....	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	B. B. Bobbitt.
Asbury Park .....	do .....	22	20	68.4	+0.2	89	*20	48	7	27	0.85	-3.01	0.80	0	3	18	0	2	se.	B. H. Obert.
Atlantic City .....	Atlantic .....	16	35	68.2	+1.4	90	20	51	7	27	1.04	-1.99	0.78	0	4	11	11	8	sw.	Section Center.
Cape May City .....	Cape May .....	17	24	68.2	+0.5	87	20	52	7	21	1.29	-1.75	0.61	0	4	16	10	4	s.	U. S. Weather Bureau.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

† Not considered in averages.

‡ Published subject to correction.

[illegible]



### Total Monthly Precipitation, June, 1908.

## TOTAL PRECIPITATION FOR JUNE, 1908.

Stations.	Day of month.																															Total.		
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.			
THE HIGHLANDS & KITTA-TINNY VALLEY.																																		
Layton	.04														1.25	.42									.54								2.25	
Sussex															1.15	.75							.15	.24									2.29	
Culver's Lake	T.														1.18	.86							.07	.43	.01								2.55	
Newton															*	2.55							.30	.05									2.90	
Charlotteburg															*	4.23							.10	.10									4.43	
Pompton Plains	T.														*	1.94								.11						.38			2.43	
Boonton															*	1.74							.04	.19						.34			2.31	
Dover	.01														*	2.10								.50	.15					.15			2.91	
Belvidere															1.74	.34																	2.08	
Phillipsburg	.02								.02						1.50	.58								T.										2.12
THE RED SAND STONE PLAIN.																																		
Mahwah															*	1.78							.08											1.86
River Vale															*	2.10								.30						.12				2.52
Paterson	T.										T.				1.20	.90							.02	.21					.14				2.47	
Englewood															*																			
Little Falls											T.				*	1.92							.01	.20						.19			2.32	
Morristown	T.										T.				*	1.85							.24	.50						.14			2.73	
South Orange	T.										T.				*	3.02							T.	.25									3.27	
Chatham	.02										.02				*	1.65							.20	.15									2.04	
Newark											T.				3.92	.03								.22									4.17	
New York, N. Y.	T.								.01						1.36	.27							.01	.02						.03			1.70	
Jersey City	T.										T.				.98	.56							T.	.02						T.			1.50	
Bayonne	T.										.02				1.23	.57							T.	.07						.11			2.00	
Bergen Point															*																			
Elizabeth											T.				*	2.20								.05						.11				2.36
Plainfield	T.										T.	.01			1.81	.78							.04	.07						.05			2.76	
Somerville											T.				.53	1.15																	1.68	
Flemington	T.														.75	1.33								.12	.06					T.			2.26	
New Brunswick											T.				2.00	.38							.40	.05									2.83	
College Farm															1.25	1.07							T.	.02									2.34	
Runyon		T.									T.				.38	2.36								T.									2.74	
Lambertville											T.				*	1.53								.12	.22								1.87	
THE SOUTHERN INTERIOR.																																		
Hightstown											T.				*	4.39							T.										4.39	
Trenton															2.50									.11			T.						2.61	
Imlaystown											.03				*	4.60																	4.63	
Burlington											T.				*	2.95								.01									2.96	
Rancocas															*																			
Brown's Mills											T.				*	3.10								.02									3.12	
Moorestown						T.					.02				1.77	.75							T.			T.		.01					2.55	
Philadelphia, Pa.											.03				2.27	.08							.01		.02								2.41	
Toms River											T.				*	1.31														.12		T.	1.52	
Haddonfield											.04				1.32	.68								.05									2.09	
Indian Mills											.06				1.64	1.05								.04									2.79	
Clayton											.06				*	3.47																	3.53	
Hammonton											.06				*	1.56								T.									1.62	
Tuckerton											.16				T.	.62								T.									0.97	
Egg Harbor City	.19										.22				*	1.24																	1.52	
Friesburg	.06														*	2.35								.05									2.40	
Vineland											.06				.69	1.18																	1.95	
Canton											.06				*	1.97									T.								2.03	
Bridgeton											.05				3.35	1.00																	4.40	
Pleasantville											.20				.01	.62																	0.83	
Northfield	.02										.22				*	.59														.07			0.90	
Port Norris											.18				*	1.80																	1.98	
Woodbine											.20				T.	.57																	0.77	
Cape May C. H.	.09										.32				T.	.40																	0.81	
THE SEA COAST.																																		
Oceanic											.03				.58	.61							T.										1.22	
Long Branch															.03	.77																	0.85	
Asbury Park											.05				.52	.26																	1.04	
Atlantic City	.05										T.	.38			.61																.06		1.29	
Cape May City				T.																														

|| Precipitation measured at 8 a. m., 75th meridian time.  
† Incomplete.

\* Precipitation included in that of following day.

T. Indicates amount too small to measure.

‡ Published subject to correction.



UNNJ  
U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR JULY, 1908.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF

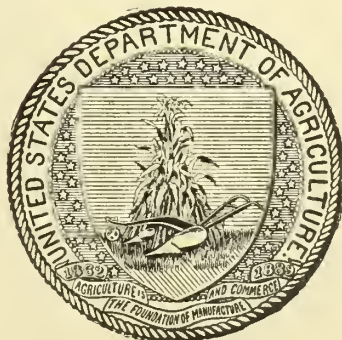
WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



ALBANY, N. Y.

WEATHER BUREAU OFFICE

SEPTEMBER 1, 1908

# Monthly Mean Isotherms and Prevailing Winds, July, 1908.





U. S. DEPARTMENT OF AGRICULTURE,  
**CLIMATOLOGICAL SERVICE**

OF THE

**WEATHER BUREAU.**

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XX1. ATLANTIC CITY, N. J., JULY, 1908. No. 7.

**GENERAL SUMMARY.**

July, 1908, was marked by high temperature, excessive humidity, and an uneven distribution of rainfall. The duration of sunshine, averaging for the State about 65 per cent of the possible, was nearly normal.

The monthly mean temperature was the highest reported for July since 1901, the temperature being above the normal throughout the State, except for a few coast stations, where a very slight deficiency occurred. The most pronounced temperature excess, amounting to about 2.5° per day, was reported from stations in Hunterdon, Passaic, Somerset, and Union counties, and the interior of Cape May County, while elsewhere the departures of monthly mean temperature from the normal were generally less than 2°. There were many days during the month with maximum temperatures of 90°, or above, and, for the first time in several years, midday temperatures of 100°, or slightly higher, were occasionally reported from scattered stations in the interior. The highest temperatures of the month occurred for the most part on the 12th, the monthly maximum temperature (106°) being the highest recorded for July in a period of 7 years. The nights were unseasonably warm throughout the month, except at the close of the first decade and near the middle of the second decade, when minimum temperatures of about 50° occurred over a large part of the interior. There were no well defined cool periods during the month, the only relief from the generally hot days and warm nights being that afforded at brief intervals by showers and thunderstorms.

Altho the monthly precipitation averaged nearly normal for the State as a whole, there were numerous instances of wide discrepancies in the monthly amounts over comparative small areas. A marked excess in rainfall occurred over Gloucester County, where more than 8 inches were received, and a somewhat less pronounced excess over portions of Bergen, Burlington, Essex, Monmouth, Morris and Warren counties, the extreme western part of Atlantic and the northern portion of Cumberland. The monthly rainfall at several stations near the southeastern coast and in Sussex County (less than 3 inches) was much below the normal, the deficiency being greatest over the extreme northern portion of Sussex County. Droughty conditions, prevailing at the beginning of the month, were

partially broken over scattered localities about the middle of the second decade, but were not wholly relieved until the period extending from the 21st to the 25th, when copious showers occurred over the greater part of the State. Local storms of severity, causing loss of life and much damage to property by lightning, were a feature of the latter-named period, the storms being exceptionally severe over the lower Delaware River counties. A northeast storm of moderate intensity, of which timely warning was given, swept along the coast on the last day of the month.

**TEMPERATURE**

The monthly mean, 75.6°, was 1.5° above the normal. The mean maximum was 86.6°, the mean minimum 64.7°, and the mean daily range 21.9°.

The means for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley, 73.9°, +1.9°; Red Sand Stone Plain, 75.9°, +1.6°; Southern Interior, 77.0°, +1.6°; Sea Coast, 73.7°, +0.5°.

The highest monthly mean was 78.9°, at Bridgeton, and the lowest, 72.5°, at Asbury Park, the range of monthly mean temperature being 6.4°.

The highest temperature, 106°, occurred at Brown's Mills, on the 12th, and the lowest, 42°, at Brown's Mills, on the 9th, and at Layton, on the 9th and 17th, the range within the State being 64°.

The greatest local monthly range, 64°, occurred at Brown's Mills, and the least, 29°, at Cape May.

The greatest daily range, 48°, occurred at Brown's Mills, on the 17th.

**PRECIPITATION.**

The average, 4.70 inches, was 0.25 of an inch below the normal, the averages for the various districts, with the departures from the normal being as follows: The Highlands and Kittatinny Valley, 4.69 inches, -0.09 of an inch; Red Sand Stone Plain, 4.56 inches, -0.68 of an inch; Southern Interior, 4.95 inches, +0.18 of an inch; Sea Coast, 3.95 inches, -0.76 of an inch.

The greatest amount, 8.12 inches, occurred at Clayton, and the least, 1.97 inches, at Layton.

The greatest amount in 24 hours, 3.70 inches, occurred at Dover, on the 25th.

Excessive precipitation occurred as follows: Dover, 25th, 3.70 inches; Pompton Plains, 25th, 3.22 inches; Vineland, 25th, 3.17 inches; Clayton, 22d, 3.15 inches; Newark, 23d, 2.70 inches; River Vale, 25th, 2.65 inches; Oceanic, 22d, 2.60 inches; Atlantic City, 25th, 1.10 inches in 19 minutes.

Measurable precipitation occurred on an average of 9 days.

**SUNSHINE AND CLOUDINESS**

The average number of clear days was 12; partly cloudy, 13; cloudy, 6. The following percentages of the possible amount of sunshine were reported: Atlantic City, 64; Hightstown, 70; Jersey City, 66.

**WIND.**

Southwest winds prevailed. No gales occurred during the month, altho heavy wind-gusts, accompanying thunderstorms, were frequent.

## MISCELLANEOUS PHENOMENA.

*Meteor.*—Indian Mills, 18th.

*Halos, solar.*—Atlantic City, Burlington, Indian Mills, 9th.

*Hail.*—Bayonne, Bergen Point, Jersey City, Newark, Runyon, 14th; Phillipsburg, 12th.

*Halos, lunar.*—Atlantic City, Indian Mills, Trenton, 9th; Cape May Court House, 10th; Newark, 6th, 9th; Oceanic, 5th.

*Fog.*—Atlantic City, 5th, 11th, 12th, 28th; Bayonne, 11th, 31st; Bergen Point, 29th–31st; Boonton, 2d, 27th; Burlington, Rancocas, Trenton, 31st; Cape May, 2d, 10th, 11th, 21st, 22d, 24th, 25th, 29th; Haddonfield, 28th, 31st; Hightstown, 21st, 28th; Indian Mills, 2d, 31st; Layton, 29th; Moorestown, Vineland, 21st; Oceanic, 21st, 31st; Phillipsburg, 27th.

*Thunderstorms* (dates and number of reports).—1st, 4; 2d, 14; 3rd, 21; 4th, 22; 5th, 4; 6th, 3; 7th, 7; 8th, 1; 12th, 15; 13th, 4; 14th, 34; 15th, 2; 17th, 2; 18th, 2; 19th, 9; 21st, 9; 22d, 29; 23d, 29; 24th, 27; 25th, 28; 26th, 1; 30th, 1; 31st, 1. Thunderstorms occurred at Weather Bureau Stations as follows: Atlantic City, 6th, 12th, 14th, 22d, 23d, 24th, 25th; Cape May, 5th, 14th, 21st, 22d, 23d, 24th, 25th.

## DELAYED REPORTS.

Englewood, June, 1908.—Mean temperature, 67.9°; departure from the normal, -0.4°; highest, 91°, 24th; lowest, 44°, 3d; greatest daily range, 30°. Total precipitation, 1.63 inches; departure from the normal, -2.11 inches; greatest in 24 hours, 1.26 inches; number of rainy days, 5; clear, 16; partly cloudy, 10; cloudy 4; prevailing wind direction, southwest.

Rancocas, June, 1908.—Total precipitation, 2.39 inches; departure from the normal, -1.44 inches; greatest in 24 hours, 2.37 inches; number of rainy days, 3; clear, 14; partly cloudy, 13; cloudy, 3; prevailing wind direction, northwest.

Bergen Point, June, 1908.—Mean temperature, 71.0°; departure from the normal, +2.2°; highest, 94°, 24th; lowest, 48°, 7th; greatest daily range, 34°. Total precipitation, 2.10 inches; departure from the normal, -1.73 inches; greatest in 24 hours, 1.90 inches; number of rainy days, 5; clear, 17; partly cloudy, 12; cloudy, 1; prevailing wind direction, southwest.

## CORRECTIONS.

June, 1908, Report, page 45.—Layton, precipitation departure should be -2.15 inches. Charlotteburg, precipitation departure should be +0.17 of an inch. Phillipsburg, greatest precipitation in 24 hours should be 2.08 inches. Indian Mills, total precipitation should be 2.79 inches. Bridgeton, number of rainy days should be 3. Asbury Park, number of partly cloudy days should be 10. Lambertville, page 46, maximum temperature 4th should be 75°.

PRECIPITATION DATA FOR TRENTON, MERCER COUNTY, N. J.  
(Continued from June, 1908, Report.)

Greatest annual amount, 67.23 inches, 1889; least, 34.28 inches, 1905.

Greatest monthly amount, 15.12 inches, July, 1880; least, 0.22 of an inch, January, 1876.

Greatest amount in 24 hours (since January, 1888), 5.42 inches, October 8–9, 1903.

Excessive precipitation, (2.50 inches, or more, in 24 consecutive hours, or less; January, 1888, to June, 1908, inclusive); 2.53 inches, August 21, 1888; 2.69 inches, September 8, 1888; 3.28 inches, July 30, 1889; 2.57 inches, September 13, 1889; 2.76 inches, August 23–24, 1893; 3.43 inches, May 21, 1894; 3.13 inches, August 10–11, 1899; 2.65 inches, January 11–12, 1900; 4.20 inches, May 19, 1900; 2.55 inches, September 15–16, 1900; 4.59 inches, August 10, 1902; 3.69 inches, April 14, 1903; 3.26 inches, June 12, 1903; 5.42 inches, October 8–9, 1903; 3.10 inches, August 5, 1904; 2.98 inches, August 20, 1904; 4.02 inches, September 15, 1904; 2.54 inches, March 3–4, 1906; 2.85 inches, July 3–4, 1906; 2.50 inches, June 15, 1908.

Average number of days with measurable precipitation: January, 8; February, 7; March, 9; April, 8; May, 10; June, 8; July, 10; August, 9; September, 8; October, 7; November, 8; December, 8; Annual, 100.

Average seasonal precipitation: Spring, 11.93 inches; summer, 14.90 inches; autumn, 11.68 inches; winter, 10.50 inches.

Total precipitation for the wettest spring, 1888, 16.00 inches; summer, 1867, 25.32 inches; autumn, 1889, 22.54 inches; winter, 1901–2, 16.84 inches.

Total precipitation for the driest spring, 1905, 7.52 inches; summer, 1874, 5.53 inches; autumn, 1879, 4.02 inches; winter, 1900–1, 4.50 inches.

Longest rainy period (since August, 1890), May 17–24, 1894, 8 days; total precipitation, 8.58 inches. Longest period without measurable precipitation, April 16–May 23, 1903, 38 days.

*Snowfall* (1893–1907).—Average monthly amounts: January, 7.2 inches; February, 10.2 inches; March, 3.8 inches; April, 0.2 of an inch; November, 1.2 inches; December, 3.3 inches; annual, 25.9 inches.

Greatest annual amount, 45.0 inches, 1899; least, 10.0 inches, 1901; greatest winter amount, 43.0 inches, 1898–99; least, 4.1 inches, 1895–6; greatest monthly amount, 34.0 inches, February, 1899.

## COMPARATIVE STATE DATA FOR JULY.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1885.....	74.9	100	44	3.44
1886.....	72.5	98	48	4.37
1887.....	77.1	102	51	7.67
1888.....	71.1	99	45	3.50
1889.....	73.4	96	48	10.19
1890.....	72.5	101	39	5.62
1891.....	70.1	95	40	5.30
1892.....	74.3	105	44	4.03
1893.....	73.9	102	40	2.72
1894.....	75.7	106	44	1.66
1895.....	79.9	93	41	4.26
1896.....	75.0	98	47	5.50
1897.....	74.1	102	50	11.42
1898.....	75.3	107	38	4.96
1899.....	74.7	98	38	5.75
1900.....	75.9	104	42	4.74
1901.....	77.3	107	41	5.87
1902.....	73.0	100	43	4.78
1903.....	73.3	100	38	5.51
1904.....	72.3	98	42	4.87
1905.....	74.4	102	42	4.06
1906.....	72.8	94	46	5.58
1907.....	73.6	96	40	2.62
1908.....	75.6	106	42	4.70



CLIMATOLOGICAL DATA FOR JULY, 1908.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Sky.					Prevailing direction of wind.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.			
THE HIGHLANDS AND KITTATINNY VALLEY.																					
Layton	Sussex	550	9	72.6	-1.7	98	12	42	*9	41	1.97	-2.63	1.12	0	6	14	11	6	SW.	Warren C. Hursh.	
Sussex	do	442	14	74.2	-2.1	95	12	46	9	38	3.47	-1.70	1.36	0	7	10	15	5	SW.	Prof. W. H. Secley.	
Culver's Lake	do	848	2								3.14	-1.41	1.65	0	8	12	16	3	S.	B. E. Riker.	
Newton	do	678	28	74.0	-2.1	97	12	45	9	40	2.99	-1.90	1.46	0	9	9	19	3	S.	B. H. Kienbaum.	
Charlotteburg	Passaic	719	16	72.6	-2.5	94	12	44	*11	36	4.07	-0.27	1.22	0	8	13	13	5	SW.	G. S. Briggs.	
Pompton Plains	Morris	195	6								7.01		3.22	0	9					M. S. Taylor.	
Boonton	do	413	11								6.01	+1.33	2.03	0	10				SW.	F. G. McIntosh.	
Dover	do	575	24	73.0	-1.5	98	12	47	*9	42	6.91	+1.33	3.70	0	10	8	16	7		William C. Harris.	
Rehoboth	Warren	289	18	74.8	-1.4	97	12	49	17	34	6.25	+0.99	1.83	0	10	10	15	6		Samuel J. Hixson.	
Phillipsburg	do	196	6	76.1	-1.7	98	12	51	*9	38	4.48	-0.41	0.93	0	11	15	11	5	SW.	D. W. Smith.	
THE RED SAND-STONE PLAIN.																					
Mahwah (†)	Bergen		6								4.60		1.16	0	9				SW.	M. F. Brooks.	
River Vale	do	79	17	73.4	-1.0	98	12	45	9	37	6.01	-1.52	2.65	0	5	12	12	7	NW.	G. S. M. Holdrum.	
Paterson	Passaic	110	32	76.2	-1.9	99	12	54	9	33	4.53	-0.23	2.31	0	8	8	17	6	S.	H. A. Probert.	
Englewood	Bergen	135	18	73.4	-0.9	94	12	50	11	32	4.27	-1.16	1.72	0	8	11	12	8	W.	William C. Tucker.	
Little Falls	Passaic	175	6								4.92		1.32	0	9				W.	F. Fearn.	
Morristown (†)	Morris	372	39								5.37		1.92	0	8	18	6	7	W.	C. Wigley.	
South Orange	Essex	200	39	74.8	-1.7	95	12	52	17	31	4.33	-0.85	1.60	0	8	9	16	6	SW.	W. J. Chandler, M. D.	
Chatham (†)	Morris	234	6								3.84		1.05	0	9				W.	M. A. Butler.	
Newark	Essex	140	66	76.4	-2.0	99	12	55	*9	31	6.30	-1.51	2.70	0	9	11	14	6	SE.	Wm. Wiener.	
New York, N. Y.	New York	314	38	76.8	-3.3	93	12	62	16	23	4.33	-0.21	1.68	0	8	9	16	6	S.	U. S. Weather Bureau.	
Jersey City	Hudson	15	3	77.6		96	6	59	9	25	4.92		1.68	0	9	9	17	5	S.	Samuel K. Pearson, jr.	
Bayonne	do	50	18	76.2	-1.3	97	6	56	17	29	3.45	-1.69	1.05	0	10	11	15	5	SE.	John H. Eadie.	
Bergen Point (†)	do	37	11	75.6	-1.2	96	12	55	17	28	3.31	-1.77	1.05	0	9	10	15	6	SW.	Dr. W. H. Mitchell.	
Elizabeth	Union	33	29	77.8	-2.3	100	12	56	9	30	3.08	-2.39	1.19	0	7	14	11	6	S.	W. M. Oliver.	
Plainfield	do	100	18	75.4	-0.9	100	12	50	*9	35	5.00	-1.09	1.19	0	12	12	16	3	SW.	John Neagle.	
Somerville	Somerset	76	29	76.9	-2.7	100	12	50	9	40	5.16	-0.99	1.57	0	9	13	12	6	SW.	Peter Hardesteale.	
Flemington	Hunterdon	187	11	76.8	-1.8	99	12	49	17	38	5.10	-0.28	1.42	0	10	14	10	7	SW.	H. E. Deats.	
New Brunswick	Middlesex	61	55	76.1	-1.8	98	12	49	17	36	4.23	-0.86	1.00	0	10	13	10	8	W.	Wm. T. Woerner.	
College Farm	do	100	13	75.1	-0.5	98	12	48	*9	37	5.12	-1.27	2.26	0	7	16	10	5	S.	George G. Manning.	
Rumson	do	18	1								3.41		2.05	0	7	9	17	5		J. H. Cottrell.	
Lambertville	Hunterdon	55	22	76.8	-2.3	98	12	51	17	35	3.11	-2.11	0.76	0	8	13	14	4	SW.	William R. Bowne.	
THE SOUTHERN INTERIOR.																					
Hightstown	Mercer	85	17	76.5	-1.8	98	12	50	*9	35	5.69	-0.26	1.27	0	7	14	11	6	SW.	Ernst Wenger.	
Freehold	Monmouth	187	25								6.98	+1.93	2.18	0	9					F. T. Cooper.	
Trenton	Mercer	60	39	77.0	-0.3	96	12	56	*9	29	5.05	-0.39	1.02	0	8	9	18	4	SW.	E. R. Cook.	
Imlaystown	Monmouth	166	22	77.0	-1.9	99	12	51	17	36	4.81	-0.25	1.04	0	11	10	16	5	SW.	F. C. Price, M. D.	
Burlington	Burlington	12	16								6.00	-0.99	2.02	0	11					D. S. B. McCoy.	
Rancocas	do	68	23			99	12	56	9		5.93	+0.55	1.85	0	13	17	4	10	SW.	Spencer Haines.	
Brown's Mills (C)	do	71	2	78.0		106	12	42	9	48	5.50		1.10	0	10					M. W. Hargrove.	
Moorestown	do	71	44	76.2	+1.4	96	12	52	17	33	6.09	-1.48	1.56	0	14	13	10	8	S.	John C. Beans.	
Philadelphia, Pa.	Philadelphia	117	38	78.4	-2.6	97	12	65	11	26	4.54	+0.21	1.60	0	11	6	15	10	S.	U. S. Weather Bureau.	
Toms River (†)	Ocean	33	17	75.2	+0.8	99	12	47	*9	38	3.59	-1.80	0.85	0	7	15	6	10	SE.	F. G. Bunnell.	
Haddonfield	Camden	75		76.6		97	12	52	17	32	4.95		1.46	0	10	12	11	8	S.	C. F. Richardson.	
Indian Mills	Burlington	76	8	76.6	+1.3	100	12	45	17	41	6.58	-2.54	1.75	0	9	11	15	5	SW.	James Armstrong.	
Clayton	Gloucester	126	12	76.8	+1.7	98	12	53	17	32	8.12	-3.36	3.15	0	10	11	15	5	SW.	Wm. T. Farley.	
Hammoniton	Atlantic	80	11								6.53	+1.58	1.70	0	10	11	16	4		Orville Bassett.	
Tuckerton (†)	Ocean	23	11	76.6	+2.1	95	*6	53	*9	30										F. R. Austin.	
Egg Harbor City	Atlantic	63	10			98	*12	50	17	30	2.70	-2.44	1.01	0	7	10	17	4	SE.	Charles Saalman.	
Friesburg (†)	Salem	100	16	76.9	+1.3	98	12	50	17	35	3.94	-0.52	2.15	0	10	8	19	4	W.	H. C. Perry.	
Vineland	Cumberland	118	41	77.2	+0.7	102	12	50	17	38	6.26	-1.72	3.17	0	9	15	11	5	S.	Alfred Chalmers.	
Canton	Salem	24	7								5.61	-0.55	2.11	0	8	15	11	5		J. H. Maskell.	
Bridgeton	Cumberland	30	33	78.9	+1.7	100	12	54	17	36	4.03	-0.94	1.95	0	9	15	9	7	W.	Henry A. Jorden.	
Pleasantville	Atlantic	26	11								2.50	-1.83	0.78	0	10	11	13	7		L. Van Gilder.	
Northfield	do										2.73		0.87	0	8					Wm. L. Flick.	
Port Norris	Cumberland		8								2.88		0.80	0	9					J. H. Barraclough.	
Woodbine	Cape May	43	17	76.0	+2.3	97	12	47	9	34	2.92	-1.10	1.03	0	8	12	10	9	S.	R. D. Maltby.	
Cape May C. H.	do	19	21	76.7	+2.6	93	*12	56	17	27	2.10	-2.17	0.88	0	11	12	14	5	S.	L. T. Garretson.	
THE SEA COAST.																					
Oceanic	Monmouth	16	22	75.8	-1.4	96	12	54	17	30	4.89	-1.04	2.60	0	13	10	11	10	SW.	Prof. C. E. Dietz.	
Long Branch	do	30																		B. B. Bobbitt.	
Asbury Park	do	22	20	72.5	-0.2	89	19	58	9	28	3.63	-1.72	1.40	0	11	15	9	7	SE.	B. H. Obert.	
Atlantic City	Atlantic	16	35	73.6	+1.1	92	19	61	9	24	4.16	+0.38	1.45	0	9	5	15	11	SW.	Section Center.	
Cape May City	Cape May	17	24	73.0	-0.4	89	19	60	9	20	3.12	-0.66	1.68	0	14	9	17	5	S.	U. S. Weather Bureau.	

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

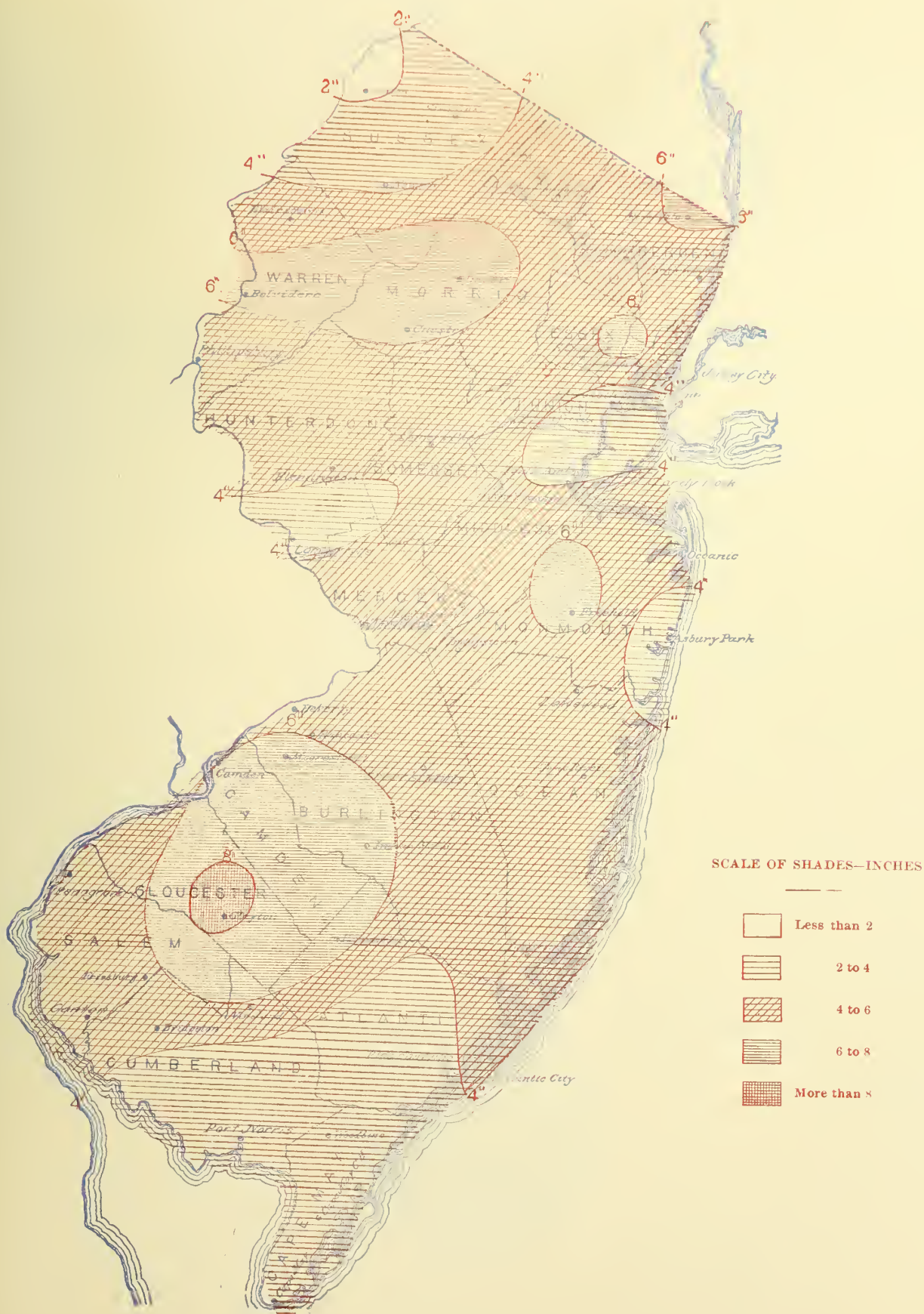
Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occured on more than one date. † Not considered in averages.





## Total Monthly Precipitation, July, 1908.



## DAILY PRECIPITATION FOR JULY, 1908.

Stations.	Day of month.																															Total.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
THE HIGHLANDS AND KITTA-TINNY VALLEY.																																	
Layton		.50		.12			.16	.05												.02													1.9
Sussex		T.	.66		.11									.58				T.		.37		.33	.06										3.4
Culver's Lake		.02	.68		.14		.01							.17				T.		.24		.23											3.1
Newton	.46			.12			.02							.09				T.		.03		.14	.53	.14	1.40								2.9
Charlotteburg		.90		.20			.30							1.22							.24	.21			.90	.70							4.4
Pompton Plains		.92		*	.24		.04			.02				1.14							.42	*	.19	.82	3.22								7.0
Boonton		.86		.74			.04							1.03			.01			*	.42	*	.18	.70	2.03								6.0
Dover		.68		.25			.05							1.15			.17			*	.39	.42	.10	3.70									6.9
Belvidere		.78		.42			.28							.62					.18		.22	.61	.46	1.83	.85								6.2
Phillipsburg	T.	.58	.22	.25			T.					.33		.84				*	.69		T.	.19	.02	.43	.93								4.4
THE RED SAND STONE PLAIN.																																	
Mahwah																						.61	.10										6.0
River Vale	1.70						T.							.95									.49	.02	.11	2.31							4.5
Paterson	.98	T.	.20	.02			T.							.40			T.		T.			T.											5.0
Englewood			.11											1.72					.03			.69	.27	.41	.21	.83							4.2
Little Falls		.89		.13			.07						.07	.64				T.		T.		*	.69	.03	.10	1.32	.98						4.9
Morristown																																	
South Orange		T.	T.	.47	.05		T.							.45							.03	.67	1.60	.34	.72	T.							4.3
Chatham																																	
Newark	.09		1.20	.02									T.	.53							.35	.45	2.70	.23	.73								6.3
New York, N. Y.		T.	.10	T.										1.68					.02		.70	.32	.45	.29	.77								4.3
Jersey City			T.	.08	.02		T.							1.16					.01		.20	.45	1.33	.35	1.32								4.9
Bayonne			.02	.05	.04		T.							1.05	T.				.02			T.	.80	.58	.35	.52	.02						3.4
Bergen Point																																	
Elizabeth		T.		.17										.37							*	.90	*	1.19	.45								3.8
Plainfield	1.19	T.	.07	.01			.07						.68		.35				.02		.05	1.10	.42	.35	.69		T.						5.0
Somerville			.38	.42	.09								.47	.38								1.21	.14	.50	1.57								5.1
Flemington			.65	.35	.06								.28	.32								T.	.46	.15	1.31	1.42	.10						5.1
New Brunswick			.03	.17	.10								.07	.67							.70	.07	.52	.90	1.00								4.2
College Farm			.47									.27		.76								.74	.20	.42	2.26	T.							5.1
Rumson		T.	T.	.10	T.									.34							*	.52	*	.40	2.05	T.							3.4
Lambertville			.76	.25			T.					.09		.19								T.	.63	.40	.52	.27							3.1
THE SOUTHERN INTERIOR.																																	
Hightstown			.51	.54										1.02						T.		T.	1.10	1.27	.21	1.04							5.6
Freehold			2.18	.47										1.04					.03		T.	1.00	.80	.40	1.03								6.9
Trenton		.78	.24	.90			T.					.19		1.02					T.		T.	.90	.30		.72								5.0
Inlaystown	.16		.48	.41										.91					.08		1.04	.70	.31	.31	.30	.11							4.8
Burlington			.04	2.02								.10		.55					.17		.52	.40	1.16	.60	.42								6.0
Rancocas		.36	.53	.12		T.						.05		.26					.62		.26	.60	1.25	.50	1.00	.11							2.7
Brown's Mills			1.10	.23										.40					.05		*	.70	.30	.85	1.03	.84							5.5
Moorestown	*	.71	.35			.05						.11		.31					.05		*	.83	.01	1.56	1.10	.05							3.2
Philadelphia, Pa.		.02	.79	.16			T.							.48					.14		.35	.24	.43	.60	1.30	.03							4.5
Toms River																																	
Haddonfield			.76	.14	.06								.13	.50					.22		T.	.57	.09	1.46	1.02	T.							4.9
Indian Mills		.05	T.			T.								.16								1.45	1.26	1.61	1.75	.07							.02
Clayton		.05	.24									.02		.86						.21		T.	3.15	1.04	1.08	1.53	.11						.04
Hammonton	.04		.11											.50					.14			.69	1.04	1.07	1.76	1.12							.06
Tickertown			.05											.21						.26			.67	.10	.40	1.01							
Egg Harbor City																																	
Friesburg																																	
Vineland	.08		T.	T.										.20					.05			.84	.95	.57	3.17		.08						.32
Canton		.74	T.											.15					.33		1.46		.60	.17	2.11	.05							T.
Bridgeton		.11	.04											.42								1.95	.10	.12	1.00	.08	.21						4.0
Pleasantville												.01		.20					.02			.40	.53	.35	.78	.04	.06						.11
Northfield														.41					.01			.61	.24	T.	.87	.04	T.						.44
Port Norris		T.	.04											.70					.05			.45	.22	.20	.30		.12						.80
Woodbine		T.												.38	.03					T.		.45	1.03	.43	.35	.04		T.					.21
Cape May C. H.			.05							T.	.10		.10	.19	.45				.03			.04	.88		.02		.03						.21
THE SEA COAST.																																	
Oceanic	.04		.16	.06	.05		.15							.25							.01	.09	2.60	.15	.67	.55	.11						4.8
Long Branch																																	
Asbury Park	.13		.20	.56	T.		.08							T.	.52					.03		1.40	.18	.15	.50	.08							3.6
Atlantic City		.01	T.	T.						T.	.11	T.		.75							.01	1.36		.14	1.42	.03							.33
Cape May City			.08	.02	.24					.04	.12	.01		1.68					T.	T.		.23	.28	T.	.03	.04	.03	.08					.24



U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR AUGUST, 1908.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF  
WILLIS L. MOORE  
CHIEF U. S. WEATHER BUREAU

BY  
LEVI A. JUDKINS  
SECTION DIRECTOR



ALBANY, N. Y.  
WEATHER BUREAU OFFICE  
SEPTEMBER 23, 1908

**Monthly Mean Isotherms and Prevailing Winds, August, 1908.**





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XXI. ATLANTIC CITY, N. J., AUGUST, 1908. No. 8.

## GENERAL SUMMARY.

Great monthly extremes of temperature occurred during August, 1908, the monthly maximum ( $103^{\circ}$ ) being the highest reported for August since 1900, and the minimum ( $36^{\circ}$ ) the lowest in a period of 24 years, with a single exception. The month averaged somewhat cooler than usual, altho brief periods of high temperature occurred in both the first and second decades. There was abundant precipitation over the northeastern and central counties and along the immediate coast. The sunshine, averaging about 60 per cent of the possible, was slightly below the normal. The month was generally free from local storms of severity.

Abnormally cool weather prevailed during the greater part of the third decade and produced a deficiency in daily mean temperature thruout the State, the temperature during the first decade having been nearly seasonable and during the second decade slightly above the normal. The temperature deficiency amounted to slightly more than  $2^{\circ}$  per day in numerous, scattered localities, the most marked departure from the normal, about  $3^{\circ}$  per day, occurring in the western part of Mercer County. Maximum temperatures of  $90^{\circ}$ , or higher, were recorded in the interior on an average of 4 days during the month, two periods of high temperature, each lasting several days, occurring near the middle of the first and second decades. Summer weather ended abruptly immediately after the beginning of the third decade, when, on the 21st, the minimum temperature was below  $50^{\circ}$  over the greater portion of the interior of the State, and slightly below  $40^{\circ}$  at elevated stations in Bergen, Passaic and Sussex counties, in the north. A slight frost was visible in exposed places in the extreme north on the morning of the 21st. The sudden change to decidedly lower temperature was followed by a period of cool, gloomy weather, with easterly winds and considerable rain, lasting for nearly a week, exceptionally low mid-day temperatures occurring on the 26th and 27th. The last two days of the month were seasonably warm.

As in the two preceding months, there was an uneven geographical distribution of monthly precipitation. The region of heaviest rainfall included portions of Essex, Mercer and Passaic counties, where more than 7 inches were received during the month. The smallest monthly amounts, about 2.50 inches, occurred over limited portions of Atlantic, Cumberland and

Sussex counties. As compared with the normal, the excess in moisture thruout the region of heaviest rainfall ranged from 2 to nearly 3 inches, while over scattered localities in the north-western and southern parts of the State there were local deficiencies of from one to 3 inches. During the first and second decades the precipitation was for the most part in the form of light to moderate showers and thunderstorms, altho heavy to excessive rains, with hail, occurred over several of the southern counties on the 7th. A large part of the monthly rainfall was received near the middle of the third decade, when excessive 24-hour amounts, ranging from 2.70 to about 4 inches, were reported from numerous stations.

There was an absence of gales during the month, altho a storm at sea caused brisk easterly winds on the coast on the 26th.

## TEMPERATURE.

The monthly mean,  $70.6^{\circ}$ , was  $1.8^{\circ}$  below the normal. The mean maximum was  $80.6^{\circ}$ , the mean minimum  $60.6^{\circ}$ , and the mean daily range  $20.0^{\circ}$ .

The means for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley,  $68.5^{\circ}$ ,  $-1.4^{\circ}$ ; Red Sand Stone Plain,  $70.9^{\circ}$ ,  $-1.7^{\circ}$ ; Southern Interior,  $71.4^{\circ}$ ,  $-2.0^{\circ}$ ; Sea Coast,  $70.9^{\circ}$ ,  $-1.9^{\circ}$ .

The highest monthly mean was  $73.4^{\circ}$ , at Bridgeton, and the lowest,  $66.6^{\circ}$ , at Dover, the range of monthly mean temperature being  $6.8^{\circ}$ .

The highest temperature,  $103^{\circ}$ , occurred at Brown's Mills, on the 4th, and the lowest,  $36^{\circ}$ , at Layton, on the 21st, the range within the State being  $67^{\circ}$ .

The greatest local monthly range,  $63^{\circ}$ , occurred at Brown's Mills, and the least,  $31^{\circ}$ , at Cape May.

The greatest daily range,  $45^{\circ}$ , occurred at Layton, on the 21st, and at Charlotteburg, on the 30th.

The average number of days with maximum temperature of  $90^{\circ}$ , or higher, was 4.

## PRECIPITATION.

The average, 5.05 inches, was 0.28 of an inch below the normal, the averages for the various districts, with the departures from the normal, being as follows: The Highlands and Kittatinny Valley, 4.28 inches,  $-0.32$  of an inch; Red Sand Stone Plain, 6.02 inches,  $+1.18$  inches; Southern Interior, 4.51 inches,  $-0.41$  of an inch; Sea Coast, 5.38 inches,  $+0.79$  of an inch.

The greatest amount, 7.74 inches, occurred at Newark, and the least, 2.43 inches, at Layton.

The greatest amount in 24 hours, 4.08 inches, occurred at Lambertville and Plainfield, on the 25-26th.

Excessive precipitation occurred as follows: 7th, Asbury Park, 1.20 inches in 25 minutes; Indian Mills, 2.86 inches (1.04 inches in 14 minutes); 22d, Little Falls, 2.72 inches; Paterson, 2.63 inches; 25-26th, Lambertville, 4.08 inches; Plainfield, 4.08 inches; Somerville, 3.90 inches; Bayonne, 3.58 inches; Bergen Point, 3.55 inches; Jersey City, 3.47 inches; Canton, 3.08 inches; Englewood, 3.01 inches; Flemington, 2.95 inches; Friesburg, 2.90 inches; Hightstown, 2.88 inches; Oceanic, 2.84 inches; New Brunswick, 2.75 inches; College Farm, 2.70 inches; 26th, Newark, 3.99 inches.

Measurable precipitation occurred on an average of 10 days.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 11; partly cloudy, 10; cloudy, 10. The following percentages of the possible amount of sunshine were reported: Atlantic City, 59; Hightstown, 59; Jersey City, 58.

## WIND.

The directions most frequently recorded were northeast and southwest. No gales occurred during the month, the highest wind velocity reported being 32 miles per hour, from the northeast, at Atlantic City, on the 26th.

## MISCELLANEOUS PHENOMENA.

*Auroras*.—Moorestown, 18th.

*Halos, solar*.—Moorestown, 25th.

*Halos, lunar*.—Newark, 3d, 4th, 8th, 10th; Vineland, 4th.

*Meteors*.—Bayonne, Paterson, 23d; Plainfield, 13th; Trenton, 1st.

*Hail*.—Asbury Park, Haddonfield, Indian Mills, Lambertville, Trenton, 7th; Bridgeton, Canton, 11th.

*Thunderstorms* (dates and number of reports).—3d, 5; 4th, 4; 5th, 28; 6th, 24; 7th, 23; 9th, 1; 11th, 21; 12th, 1; 13th, 1; 14th, 1; 17th, 2; 22d, 7; 26th, 1. Thunderstorms occurred at regular Weather Bureau stations as follows: Atlantic City, 3d, 5th; Cape May, 5th, 7th, 19th.

*Fog*.—Asbury Park, 3d, 6th; Bergen Point, 6th; Boonton, 4th, 7th, 11th, 12th; Burlington, 4th, 30th; Cape May, 12th, 15th; Haddonfield, 4th, 10th, 12th, 16th; Hightstown, 4th, 6th, 7th; Indian Mills, 4th, 12th; Jersey City, Rancocas, Somerville, 11th, 12th; Lambertville, 4th, 10th, 11th, 12th, 13th, 30th, 31st; Moorestown, 4th, 7th, 10th, 11th, 12th, 13th; Paterson, 4th, 5th, 31st; Phillipsburg, 29th; Plainfield, 6th, 7th; Trenton, 10th, 12th; Vineland, 4th.

## TEMPERATURE DATA FOR LAMBERTVILLE, HUNTERDON COUNTY, N. J.

## MONTHLY AND ANNUAL MEAN TEMPERATURES.

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1887	.....	34	33	47	65	.....	77	69	†61	52	41	34	.....
1888	24	29	†32	47	59	70	70	71	64	†47	44	35	†50
1889	36	28	41	53	63	69	72	70	65	51	46	*41	53
1890	*  40	*40	37	51	61	70	71	70	65	52	43	30	52
1891	34	38	36	52	59	70	†70	72	68	52	42	39	53
1892	28	33	34	50	60	*74	75	73	62	54	42	30	51
1893	†21	29	36	50	61	70	74	72	63	56	39	34	50
1894	33	29	45	50	62	73	77	72	68	55	†38	35	53
1895	29	†22	37	49	61	73	72	75	70	49	46	36	52
1896	28	32	34	*53	*66	69	77	74	66	51	47	31	52
1897	29	32	41	51	61	67	75	73	65	54	44	34	52
1898	32	33	46	49	60	73	78	77	69	57	42	33	54
1899	28	.....	.....	.....	.....	.....	.....	74	65	56	43	34	.....
1900	31	31	36	53	63	72	77	*78	*70	*59	47	33	*54
1901	31	26	40	50	60	71	*78	74	68	54	38	32	52
1902	29	27	45	51	61	68	74	71	65	56	*50	31	52
1903	30	33	*49	51	64	66	74	†69	66	56	40	29	52
1904	23	26	38	48	65	70	73	71	65	52	40	†26	50
1905	27	23	40	51	63	70	76	72	66	55	42	36	52
1906	37	31	35	53	63	72	75	70	70	55	43	34	54
1907	31	23	42	†47	†50	†66	74	70	67	50	43	36	50
Mean	30.1	30.0	38.8	50.3	61.7	70.2	74.5	72.6	66.1	53.5	42.8	33.5	52.0

\* Highest on record.

† Lowest on record.

|| Estimated.

## MONTHLY EXTREMES OF TEMPERATURE, 1887-1907.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Max.....	70	68	87	94	97	101	103	100	96	88	78	68
Min.....	-13	-10	-3	19	28	40	48	45	32	24	13	-3

Highest temperature, 103°, July 1 and 2, 1901; lowest, -13°, January 17, 1893, and January 5, 1904; range of temperature 116°.

Number of years with maximum temperature 100°, or higher, 5; minimum temperature zero, or lower, 12.

Average number of days per year with maximum temperature 90°, or higher, 22; with minimum temperature 32°, or lower, 119; with minimum temperature zero, or lower, 3.

Lowest annual maximum temperature, 90°, 1889; highest annual minimum, 12°, 1891.

Highest annual mean, 54.2°, 1900; Lowest, 49.6°, 1888; range of annual mean temperature, 4.6°.

Highest monthly mean, 78.3°, July, 1901; lowest, 20.0°, January, 1893; range of monthly mean temperature, 57.5°.

Average annual range of temperature, 97°; greatest annual range, 110°, 1893 and 1899; least, 82°, 1891.

Greatest monthly range, 76°, March, 1907; least, 34°, June, 1892.

Average temperature for spring, 50°; summer, 72°; autumn, 54°; winter, 31°.

Mean temperature for the warmest spring, 1903, 55°; warmest summer, 1898, 76°; warmest autumn, 1900, 59°; mildest winter, 1889-90, 40°.

Mean temperature for the coldest spring, 1888, 46°; coolest summer, 1903, 70°; coolest autumn, 1887, 51°; coldest winter, 1904-5, 25°.

Average date of last killing frost in spring, April 22; of first killing frost in autumn, October 16; average length of the growing season, 176 days.

Earliest date on which first killing frost occurred in autumn, September 22 (1904); latest date of killing frost in spring, May 12 (1907).

## COMPARATIVE STATE DATA FOR AUGUST.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1885	70.6	95	40	6.01
1886	70.7	96	42	2.64
1887	70.4	94	42	3.76
1888	72.5	98	41	6.13
1889	69.6	95	45	5.13
1890	71.5	99	40	4.90
1891	72.8	100	46	5.32
1892	73.4	99	38	6.52
1893	72.8	99	38	2.58
1894	70.9	97	38	2.53
1895	74.2	102	34	1.83
1896	73.6	105	39	4.39
1897	71.0	92	41	5.36
1898	74.8	98	42	4.36
1899	72.3	99	32	2.68
1900	76.3	104	41	9.43
1901	73.8	98	44	3.91
1902	70.1	93	40	6.95
1903	68.4	98	39	6.62
1904	70.8	92	37	5.72
1905	71.1	95	38	5.95
1906	74.6	97	42	3.45
1907	70.5	96	39	5.05
1908	70.6	103	36	



CLIMATOLOGICAL DATA FOR AUGUST, 1908.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing direction of wind.	Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.			Number cloudy days.	
THE HIGHLANDS AND KITTATINNY VALLEY.																					
Layton	Sussex	550	9	67.2	-1.0	97	4	36	21	45	2.43	-1.72	0.78	0	6	13	10	8	sw.	Warren C. Hursh.	
Sussex	do	442	14	68.8	-1.1	94	4	44	21	35	3.41	-0.93	0.89	0	6	13	11	7	sw.	Prof. W. H. Seeley.	
Culver's Lake	do	848	7								3.66	-1.07	0.90	0	8	10	12	9	s.	B. E. Riker.	
Newton	do	678	28	69.2	-0.8	94	4	42	21	40	4.51	-0.16	1.90	0	7	11	13	7	s.	B. H. Kienbaum.	
Charlotteburg	Passaic	710	16	67.2	-0.8	92	4	37	21	45	3.98	-0.82	1.60	0	7	12	13	6	w.	G. S. Briggs.	
Pompton Plains	Morris	195	6								6.16		1.87	0	9					M. S. Taylor.	
Boonton	do	413	11								5.85	-6.56	2.04	0	9				nw.	F. G. McIntosh.	
Dover	do	575	24	66.6	-2.8	92	4	43	21	35	5.10	-10.09	1.65	0	8	13	10	8		William C. Harris.	
Belvidere	Warren	289	18	69.4	-2.1	93	4	45	*21	35	3.93	-0.91	1.17	0	9	12	11	8		Samuel J. Hixson.	
Phillipsburg	do	196	6	70.8	-0.8	97	4	47	21	37	3.78	-1.06	1.18	0	9	11	12	8	ne.	D. W. Smith.	
THE RED SAND-STONE PLAIN.																					
Mahwah (†)	Bergen		6								6.22		1.47	0	9				nw.	M. F. Brooks.	
River Vale	do	70	17	68.0	-2.2	92	13	39	*21	41	6.27	-1.81	2.40	0	8	10	9	12	nw.	G. S. M. Holdrum.	
Pateron	Passaic	110	32	71.1	-1.0	94	4	47	29	33	7.22	-1.94	2.63	0	11	9	14	8	sw.	H. A. Probert.	
Englewood	Bergen	135	18	69.0	-2.2	92	4	44	29	27	5.96	-1.03	3.01	0	11	15	8	8	se.	William C. Tucker.	
Little Falls	Passaic	175	6								7.15		2.72	0	10				w.	F. Earns.	
Morristown (†)	Morris	372									5.72			0	9	10	12	9	s.w.	C. Wigley.	
South Orange	Essex	200	39																	W. J. Chandler, M. D.	
Chatham (†)	Morris	234	6								5.77		6.95	0	10				w.	M. A. Butler.	
Newark	Essex	140	66	72.8	-1.6	96	4	49	29	32	7.74	-2.50	3.99	0	10	9	15	7	sw.	Wm. Wiener.	
New York, N. Y.	New York	314	38	72.5	0.3	91	4	56	27	20	5.65	+1.12	3.25	0	10	12	10	9	s.	U. S. Weather Bureau.	
Jersey City	Hudson	15	3	73.0		93	13	53	30	29	5.63		3.47	0	9	9	12	10	ne.	Samuel K. Pearson, jr.	
Bayonne	do	50	18	71.6	-2.1	94	4	49	29	29	5.99	+1.16	3.58	0	10	16	7	8	se.	John H. Eadie.	
Bergen Point (†)	do	37	11	71.4	-0.9	92	*	4	51	*29	30	6.61	+1.56	3.55	0	9	12	10	9	sw.	Dr. W. H. Mitchell.
Elizabeth	Union	33	29	72.5	-1.1	96	4	50	26	32	4.96	+0.48		0	11	13	9	9	s.	W. M. Oliver.	
Plainfield	do	100	18	70.6	-2.2	95	4	45	21	38	6.60	+1.50	4.08	0	11	11	10	10	sw.	John Neagle.	
Somerville	Somerset	76	29	71.5	-1.2	97	4	46	21	38	5.85	+1.04	3.90	0	10	14	8	9	sw.	Peter Hardcastle.	
Flemington	Hunterdon	187	11	71.4	-1.2	96	4	47	29	39	5.15	+0.19	2.95	0	12	10	14	7	sw.	H. E. Deats.	
New Brunswick	Middlesex	61	55	71.0	-1.5	95	4	44	21	38	5.09	+0.02	2.75	0	11	10	10	11	w.	Wm. T. Woerner.	
College Farm	do	100	13	69.6	-2.8	94	4	42	30	42	5.00	-0.35	2.70	0	10	11	10	10	w.	Geo. B. Thrasher.	
Rumney	do	18	1								4.48			0	9	10	10	11		J. H. Cottrell.	
Lambertville	Hunterdon	95	22	71.0	-1.6	95	4	47	29	32	6.97	+2.44	4.08	0	9	10	14	7	ne.	William R. Bowne.	
THE SOUTHERN INTERIOR.																					
Hightstown	Mercer	85	17	71.2	-1.4	94	* 4	45	21	38	7.17	-2.81	2.88	0	9	17	4	10	sw.	Ernst Wenger.	
Freehold	Monmouth	187	25																	F. T. Cooper.	
Trenton	Mercer	60	39	71.4	-3.1	92	4	49	30	32	6.34	-0.80	2.10	0	8	13	10	8	ne.	E. R. Cook.	
Imhustown	Monmouth	106	22	71.2	-2.0	96	4	46	*21	37	5.74	+1.08		0	9	10	11	10	sw.	F. C. Price, M. D.	
Burlington	Burlington	12	16								4.86	-1.13	1.65	0	8	11	8	12	ne.	D. S. B. McCoy.	
Rancocas	do	68	23								3.61	-1.49	1.25	0	10	14	5	12	ne.	Spencer Haines.	
Brown's Mills (c)	do	71	2	71.0		103	4	40	21	41	4.89		1.80	0	9					M. W. Hargrove.	
Moorestown	do	71	44	71.2	-1.3	94	4	49	*21	31	3.94	-0.87	2.15	0	10	13	6	10	n.	John C. Beans.	
Philadelphia, Pa.	Philadelphia	117	38	73.4	-0.4	94	4	56	26	24	5.41	-0.80	2.98	0	11	10	10	11	s.	U. S. Weather Bureau.	
Toms River (†)	Ocean	33	17																	F. G. Bunnell.	
Haddonfield	Camden	75		71.5		94	4	47	21	33	5.10		2.13	0	12	10	10	11	sw.	C. F. Richardson.	
Indian Mills	Burlington	76	8	71.4	-1.5	96	4	44	21	39	6.09		2.86	0	9	15	9	7	ne.	James Armstrong.	
Clayton	Gloucester	126	12	71.6	-1.8	94	4	49	*29	33	4.87	-1.08		0	10	10	10	11	sw.	Wm. T. Farley.	
Hammoncton	Atlantic	80	11								3.76		1.12	0	10	10	11	10		Orville Bassett.	
Tuckerton (†)	Ocean	23	11	71.0	-2.0	95	14	46	30	36	4.46		1.66	0	9	8	15	9	sw.	F. R. Austin.	
Egg Harbor City	Atlantic	63	19			95	*	4	51	*21	31	3.34	-1.05	1.34	0	9	10	10	11	sw.	Charles Saalman.
Friesburg (†)	Salem	100	16	71.2	-2.5	94	4	46	*21	34	4.53	-0.38	2.90	0	12	9	10	12	ne.	H. C. Perry.	
Vineland	Cumberland	118	41	71.8	-1.9	95	4	49	*29	34	3.15	-1.76	0.96	0	9	11	11	9	ne.	Alfred Chalmers.	
Canton	Salem	24	7								5.74	+0.73	3.08	0	9	10	13	8		J. H. Maskell.	
Bridgeton	Cumberland	30	33	73.4	-2.2	98	* 4	49	*29	35	4.71	0.12	2.04	0	10	14	3	14	ne.	Henry A. Jordan.	
Pleasantville	Atlantic	26	11								2.69	-3.04	1.27	0	11	10	13	8		L. Van Gilder.	
Northfield	do										3.36		1.24	0	13					Wm. L. Flick.	
Port Norris	Cumberland	8									2.65		0.65	0	9					J. H. Barracough.	
Woodbine	Cape May	43	17	70.4	-2.2	92	4	47	27	27	3.74	-0.33	1.34	0	9	10	13	8	s.	R. D. Maltby.	
Cape May C. H.	do	19	21	71.4	-2.0	90	4	50	*27	27	4.39	+0.62	1.36	0	12	7	11	13	ne.	L. T. Garretson.	
THE SEA COAST.																					
Oceanic	Monmouth	16	22	70.8	-2.2	93	5	51	30	28	6.28	+1.32	2.84	0	10	10	13	8	e.	Prof. C. E. Dietz.	
Long Branch	do	30																		B. B. Bobbitt.	
Asbury Park	do	22	20	71.0	-1.1	87	15	53	30	23	5.87	+1.05	2.46	0	10	10	12	9	ne.	B. H. Obert.	
Atlantic City	Atlantic	16	35	71.0	-1.6	87	18	54	30	25	4.33	+0.03	1.98	0	11	9	8	14	ne.	Section Center.	
Cape May City	Cape May	17	24	70.8	-2.6	83	*18	52	29	17	5.03	-0.77	1.07	0	15	11	10	10	ne.	U. S. Weather Bureau.	

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\*Occurred more than one date.

†Not considered in averages.

[illegible]



# Total Monthly Precipitation, August, 1908.



## DAILY PRECIPITATION FOR AUGUST, 1908.

Stations.	Day of month.																															Total.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
THE HIGHLANDS AND KITTA-TINNY VALLEY.																																	
Layton					T.	.43	.31				.18						.15	*				.78				.58						2.4	
Sussex					T.	.83	.38				.66						.21					.89				.44						3.4	
Culver's Lake					.09	.85	.17			T.	.78						.28			T.		.90				.57	.02					3.6	
Newton					T.	.55	.81				.32						.29	.01				1.90				.63						4.5	
Charlotteburg					.25	.10	.50				T.	*					.20					1.60				*	1.33					3.9	
Pompton Plains					*	.12	.34	.38	.04		.03						.16					1.87			*	1.78	.44					6.1	
Boonton					*	.34	.63	.32	.06		T.						.20					2.04			*	1.80	.46					5.8	
Dover					.21	.60	.78		.09								.32					1.45			*	1.65						5.1	
Belvidere						.67	.42	.21	.06		.25					*	.37					1.17				.78						3.9	
Phillipsburg					T.	.13	.70	.01	.09		.05					*	.64					1.18			T.	.98	T.					3.7	
THE RED SAND STONE PLAIN.																																	
Mahwah					*	.17	1.05	.50			1.00		*	.03			.08					1.47			*	1.16	.76					6.2	
River Vale					.60	.40	.35			.04	.08						.30					2.10				.240						6.2	
Paterson					.81	.54	.26		.06	.02	.43						.06					2.63			*	2.31	.10					7.2	
Englewood					.49	.29	.13		.17		.19						.09			.01		1.26			.19	3.01	.13					5.9	
Little Falls			T.		.94	.84	.29		.07		.08						.11					2.72			*	2.00	.10	T.				7.1	
Morristown					.35	.38	.47				.07						.13					1.65			*	2.67						5.7	
South Orange					*	.40	.20	.12	.20		.05						.15					1.55			*	.95	1.95	.20				5.7	
Chatham					.53	.16	.16		.02	.19						T.	.04					1.14			1.45	3.99	.06					7.7	
Newark					.44	.28	.09		.10	.17							.06				T.	1.14			.11	3.14	.12					5.6	
New York, N. Y.					.27	.19	.16		.11	.17							.06					1.07			T.	3.47	.13					5.6	
Jersey City					.28	.12	.10		.15	.28	T.					.05	.08					1.22	T.		T.	3.58	.13					5.9	
Bayonne					.33	.13	.14		.28	.47							.08					1.41			T.	3.55	.22					6.6	
Bergen Point					.08	*	.10		.17	.15						*	.23					.93			*	3.30						4.9	
Elizabeth					.22	.50	.19		.15	.16		.01					.17					.80			.03	4.08	.29					6.6	
Plainfield					T.	.15	.62		.18	.18			.06				.16					.55			*	3.90	.05					5.8	
Somerville					.02	.18	.32	.01	.22	.22	.02	.15					.41					.53			T.	2.95	.12					5.1	
Flemington					.32	.20	.10		.18	.03		.05					.15					.92			*	2.75	.39					5.0	
New Brunswick					*	.37	.20		.18	.14							.16					.86			*	2.70	.39					5.0	
College Farm					.09	.04	.52		.10	.04							T.					.35			*	3.34						4.4	
Rumson					.09	.83	.54		.18	.48							.13					.38				4.08	.26					6.9	
Lambertville																																	
THE SOUTHERN INTERIOR.																																	
Hightstown					.14	.17	1.81		.17		.40						.17					1.10			T.	2.88	.33					7.1	
Freehold					.14	.59	2.10		.21		.44						T.					.46			.30	2.10	T.					6.3	
Trenton					.23	.15	1.06		.23		.60						T.					.65			*	2.82						5.7	
Imlaystown					.47	.60	.08										.02					1.02			1.65	.90	.12					4.8	
Burlington					.25	.02	.37		.27	.37							.06					.27			.50	1.25	.25					3.6	
Rancocas					.11	.02	.25		.31	.47							.16	T.				.25			.03	2.15	.16					3.9	
Brown's Mills					.18	.20	1.12		.34	.05							T.	.02				.39			1.05	1.94	.09					5.4	
Moorestown					.03																												
Philadelphia, Pa.					.03	.14	.04	2.00		.33		.06	.01				.05	T.				.12			.05	2.13	.14					5.1	
Toms River					.25	.22	.19	2.86		.32	.06						T.					.19			T.	1.63	.37					6.0	
Haddonfield					.02	.17	.11	.42		.26	.40	.10					T.					.17			*	2.95	.27					4.8	
Indian Mills					.23	.20	1.12		.35	.15							T.							T.	*	*	*	1.71				3.7	
Clayton					*	.20	1.05		.35																*	1.66	.55					4.4	
Hamumonton					.12	.10	*	.63	1.05	.35															*	1.34	.41	.03				3.4	
Tuckerton					.25	*	.43	.46	.42																*	2.90	.24					4.5	
Egg Harbor City					.18	*	.09		.26	.44	.17					.11	*	.05							*	.08	.96	.15					3.5
Friesburg					*	.38	.36		.38	.83							T.	.01							*	3.08	.36					5.7	
Vineland					T.	.02	.05		.29	1.52						.14	T.								T.	.13						4.7	
Canton					.40	.05	.05		.32	2.04							.05								T.	.28	1.27	.15					2.6
Bridgeton					.17	.10	.26	.25	.22																	.02	.1.27	.19	.04				3.3
Pleasantville					.23	.06	*	.59	.39	.07	.36		.01	T.												.02	.60	.54				2.6	
Northfield					*	.65	.08		.56		.17						T.									.02	.60	.54					3.3
Port Norris					.21	T.	.80		.05	.44		.50					T.								T.	.10	1.34	.15	.15				3.7
Woodbine					.36	T.	1.00	.10	.02	.41	.54				.22										T.	1.36	.12	.12					4.39
Cape May C. H.																																	
THE SEA COAST.																																	
Oceanic					.76	.30	1.21		.15		.08						.04					.69			.02	2.84	.19					6.28	
Long Branch					*	1.06	2.46		.20		.21						.08							*	1.52	.31						5.87	
Asbury Park					.84	.06	.21	.47	.17	T.	.31						.03							T.	.03		.82	1.23	.14	.05		4.33	
Atlantic City					.20		.34	.58	.07		.07				.15		.01	.01	.22						.42	T.		1.05	.62	.09	.09		5.03
Cape May City																																	



U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR SEPTEMBER, 1908.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF  
WILLIS L. MOORE  
CHIEF U. S. WEATHER BUREAU

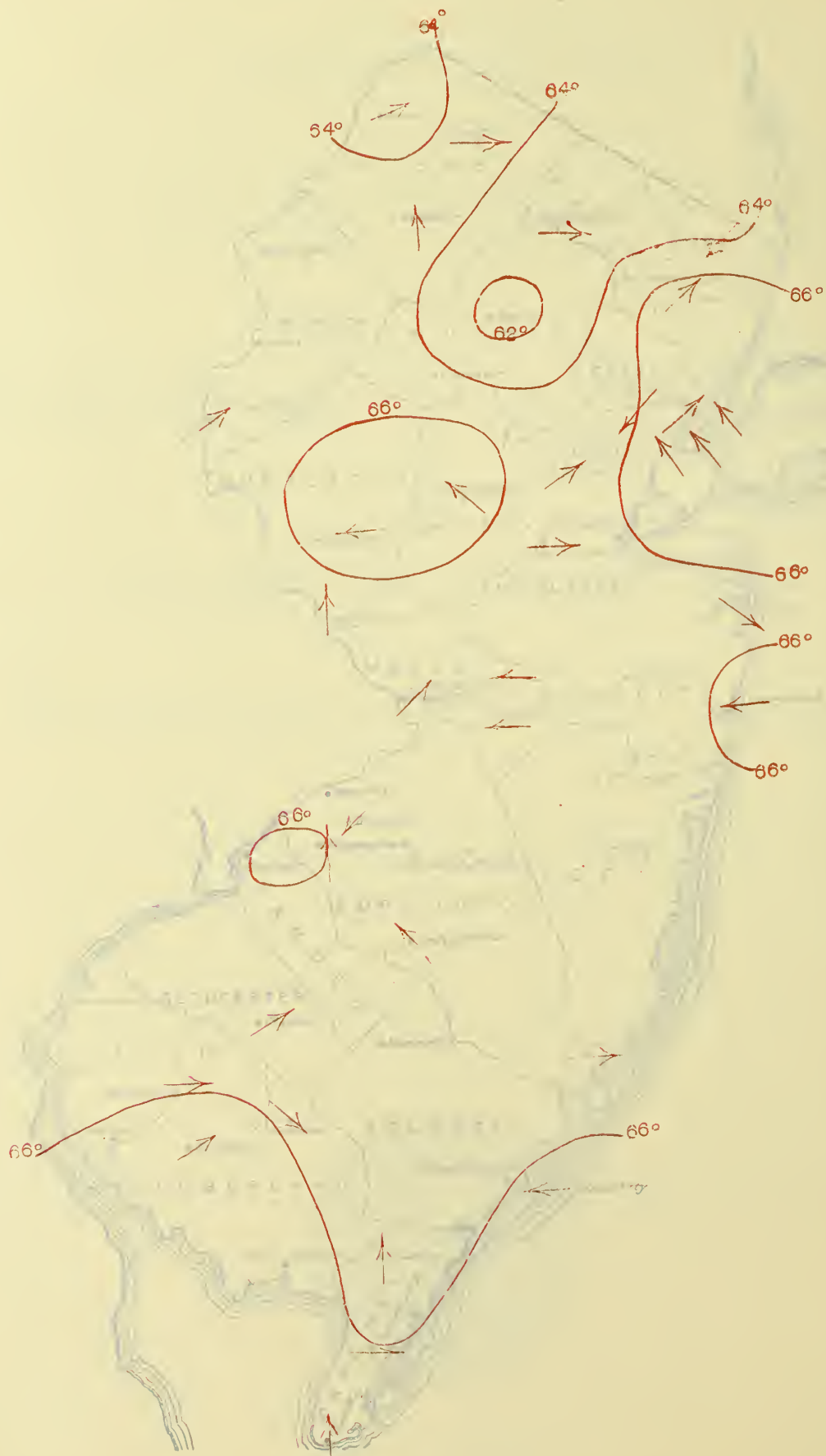
BY

LEVI A. JUDKINS  
SECTION DIRECTOR



ALBANY, N. Y.  
WEATHER BUREAU OFFICE  
OCTOBER 19, 1908

**Monthly Mean Isotherms and Prevailing Winds, September, 1908.**





U. S. DEPARTMENT OF AGRICULTURE,  
**CLIMATOLOGICAL SERVICE**

OF THE

**WEATHER BUREAU.**

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XXI. ATLANTIC CITY, N. J., SEPTEMBER, 1908. No. 9.

**GENERAL SUMMARY.**

Features of September, 1908, were the marked deficiency in precipitation, the small number of rainy days, and the unusually large amount of foggy and smoky weather. The average precipitation was the fourth smallest reported for September since 1887, the driest September in a period of 22 years having been that of 1895, when an average of only 1.07 inches of rain was received. Morning fogs occurred frequently during the month thruout the interior of the State, and during the second and third decades the greater portion of the district was covered by a heavy pall of smoke from distant forest fires. As a result of the prevailing sky conditions, the sunshine, averaging about 58 per cent of the possible, was decidedly below the normal.

The temperature averaged slightly below the normal for the State as a whole, altho a moderate excess was reported from some stations in the northern and central counties. Thruout the southern half of the State the temperature was quite generally below the normal, the most pronounced deficiency, amounting to from 2° to 3° per day, occurring in portions of Cape May, Mercer, and Salem counties. There were no prolonged periods of abnormally cool weather during the month. Brief periods of moderately high temperature occurred in each decade, the highest temperatures of the month being recorded on various dates—principally the 1st, 11th, 12th, 19th, and 25th. The minimum, or night, temperatures were above 50° in the interior and above 60° on the coast much of the time. For the most part the lowest temperatures of the month were reported on the 30th, when killing frost formed in exposed localities in the extreme north, and light frost (the first of the season) extended over the Delaware River counties southward to, and including, Salem County.

There were only two storm periods during the month, the first occurring in the middle of the first decade and the second near the close of the third decade, the weather from the 7th to the 27, inclusive, being rainless. Precipitation on the 5-6th was generally heavy over the southern, eastern and central counties, and mostly light over the northern counties. During the second storm period the northern counties received the largest amounts of rain as a rule. The monthly precipitation was less than 2 inches over a large part of the northern and a few of the southwestern and coast counties. The monthly amounts were less than 3 inches elsewhere, except over limited portions of Atlantic

and Cumberland counties, where from 3 to 4 inches were received. As compared with the normal, there was a deficiency in moisture of nearly 2 inches for the State as a whole, the local deficiencies exceeding 3 inches over several, scattered localities. Over the southern portion of Cape May County the deficiency was somewhat less marked, and at Atlantic City, Atlantic County, an excess of about 1 inch occurred. As a result of the prolonged spell of dry weather during the month, water supplies were quite generally diminished, and in some localities—particularly in the north—they failed entirely. During the latter part of the month the Delaware River was at exceptionally low stages along nearly its entire course. The rains near the close of the month, while very beneficial, were hardly sufficient to restore water supplies to their normal state.

The month was free from gales and local storms of severity.

**TEMPERATURE.**

The monthly mean, 65.7°, was 0.6° below the normal. The mean maximum was 76.6°, the mean minimum 54.8°, and the mean daily range 21.8°.

The means for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley, 64.2°, +0.4°; Red Sand Stone Plain, 66.1°, 0.0°; Southern Interior, 65.8°, -1.6°; Sea Coast, 66.4°, -1.5°.

The highest monthly mean was 68.0°, at Jersey City, and the lowest, 61.8°, at Dover, the range of monthly mean temperature being 6.2°.

The highest temperature, 90°, occurred at Layton, on the 11th, and at Brown's Mills, on the 25th, and the lowest, 29°, at Charlotteburg, on the 30th, the range within the State being 61°.

The greatest local monthly range, 59°, occurred at Layton, and the least, 33°, at Asbury Park and Oceanic.

The greatest daily range, 46°, occurred at Layton, on the 9th.

The average number of days with maximum temperature of 80°, or higher, was 9.

**PRECIPITATION.**

The average, 2.09 inches, was 1.91 inches below the normal, the averages for the various districts, with the departures from the normal, being as follows: The Highlands and Kittatinny Valley, 2.00 inches, -2.24 inches; Red Sand Stone Plain, 1.83 inches, -2.35 inches; Southern Interior, 2.34 inches, -1.60 inches; Sea Coast, 2.02 inches, -1.19 inches.

The greatest amount, 4.13 inches, occurred at Atlantic City, and the least, 0.95 of an inch, at Long Branch.

The greatest 24-hour amount, 3.16 inches, occurred at Atlantic City, on the 5-6th.

Excessive precipitation occurred as follows: 5-6th, Atlantic City, 3.16 inches in 9 hours and 30 minutes.

Measurable precipitation occurred on an average of 3 days.

**SUNSHINE AND CLOUDINESS.**

The average number of clear days was 11; partly cloudy, 10; cloudy, 9. The following percentages of the possible amount of sunshine were reported: Atlantic City, 54; Hightstown, 63; Jersey City, 58.

## WIND.

East to south winds prevailed on the coast, and southwest winds in the interior. No gales occurred during the month, the highest wind velocity reported being 31 miles per hour, from the south, at Cape May, on the 28th.

## MISCELLANEOUS PHENOMENA.

*Hail.*—College Farm, 6th.

*Meteors.*—Haddonfield, 30th.

*Halos, solar.*—Imlaystown, 4th; Oceanic, 5th, 16th, 17th; Rancocas, 5th.

*Halos, lunar.*—Bayonne, Burlington, Moorestown, Oceanic, 4th; Plainfield, 4th, 5th.

*Thunderstorms* (dates and number of reports).—6th, 15; 28–29th, 32. Thunderstorms occurred at regular Weather Bureau stations as follows: Atlantic City, 28th, 29th; Cape May, 28th.

*Fog.*—Fog was reported quite generally thruout the interior on the 1st, 2d, 14th, and during the greater part of the third decade, and on the coast on the 13th, 14th, and from the 23d to the 27th, inclusive.

*Auroras.*—Asbury Park, New Brunswick, Plainfield, 11th; Bayonne, Long Branch, Somerville, 11th, 29th; Bergen Point, Boonton, Flemington, Indian Mills, Jersey City, Phillipsburg, Rancocas, Vineland, Woodbine, 29th; Burlington, 4th; Moorestown, 4th, 11th, 29th.

## DELAYED REPORTS.

Long Branch, June, 1908.—Mean temperature, 68.8°; highest, 90°, on the 21st, lowest, 46°, on the 7th; greatest daily range, 29°. Total precipitation, 1.01 inches; greatest 24-hour amount, 0.88 of an inch. Number of rainy days, 2; Clear, 18; partly cloudy, 10; cloudy, 2. Prevailing wind, southwest.

Long Branch, July, 1908.—No record. August, 1908.—Mean temperature, 71.6°; highest, 88°, on the 4th and other dates, lowest, 52°, on the 21st and other dates; greatest daily range, 30°. Total precipitation, 6.50 inches; greatest 24-hour amount, 2.10 inches. Number of rainy days, 8; clear, 10; partly cloudy, 11; cloudy, 10. Prevailing wind, southwest.

South Orange, August, 1908.—Mean temperature, 69.2°, departure from the normal,  $-1.8^{\circ}$ ; highest, 90°, on the 4th and other dates, lowest, 47°, on the 21st and other dates; greatest daily range, 31°. Total precipitation, 5.69 inches, departure from the normal,  $+0.30$  of an inch; greatest 24-hour amount, blank. Number of rainy days, 10; clear, 10; partly cloudy, 12; cloudy, 9. Prevailing wind, west.

Freehold, August, 1908.—Total precipitation, 9.23 inches, departure from the normal,  $+4.77$  inches; greatest 24-hour amount, 2.00 inches. Number of rainy days, 10.

## CORRECTIONS.

July, 1908.—Page 53. New Brunswick, greatest daily range of temperature, 36°, should be 37°. Lambertville, greatest 24-hour precipitaton, 0.76 of an inch, should be 0.92 of an inch. Tuckerton, mean temperature, 76.6°, should be 76.3°, departure from the normal,  $+2.1^{\circ}$ , should be  $+1.8^{\circ}$ ; precipitation, etc., data omitted, should be, total precipitation, 2.94 inches, departure from the normal,  $-0.72$  of an inch, greatest 24-hour amount, 1.06 inches; number of rainy days, 10; clear, 11; partly cloudy, 15; cloudy, 5; prevailing wind, southwest.

## PRECIPITATION DATA FOR LAMBERTVILLE, HUNTERDON COUNTY, N. J.

## MONTHLY AND ANNUAL PRECIPITATION.

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Anl.
1887.	.....	.....	3.68	2.71	1.17	10.29*	7.92	2.87	3.26	2.04	1.68	7.32	.....
1888.	4.98	4.06	6.04	3.84	3.42	2.09	4.74	5.58	9.45	.....	3.85	3.91	.....
1889.	4.55	1.98	3.37	4.83	5.52	6.75	10.38	3.98	10.84*	4.82	8.24*	1.80	67.06*
1890.	3.05	3.78	6.27*	2.38	4.93	4.96	5.27	4.99	3.10	5.35	0.84†	2.34	47.26
1891.	7.01*	3.74	3.69	1.39†	2.91	3.14	4.51	6.42	2.44	3.81	2.21	5.29	46.56
1892.	5.75	1.02	3.63	2.22	6.06	3.91	3.20	3.11	3.86	0.38†	8.01	1.54	42.76
1893.	3.40	5.34	3.47	4.81	2.80	3.41	1.96†	6.60	2.78	2.77	3.88	3.07	44.29
1894.	1.58†	4.22	1.57†	2.24	10.91*	2.23	2.43	1.12	6.97	3.93	2.50	4.39	44.09
1895.	4.77	1.60	3.28	4.65	2.32	5.99	4.02	4.08	1.17	4.81	1.75	.....	.....
1896.	.....	.....	4.95	1.67	2.41	3.80	5.02	0.58†	6.04	2.23	4.01	1.53†	.....
1897.	3.20	3.00	2.54	3.81	8.80	4.80	10.53*	2.71	0.97†	1.96	4.68	4.92	51.92
1898.	4.44	3.05	3.45	3.56	7.61	0.96†	3.06	5.44	1.50	5.16	7.29	3.07	48.59
1899.	.....	.....	.....	.....	.....	.....	.....	4.37	8.10	2.11	2.37	2.17	.....
1900.	3.88	4.62	4.02	2.33	6.26	3.69	6.28	2.88	2.86	2.81	2.60	2.61	44.84
1901.	3.53	0.99†	6.00	5.73*	5.99	1.09	5.33	9.22*	3.60	1.43	1.96	7.19	52.06
1902.	2.60	5.66*	4.46	3.52	2.21	6.33	5.03	4.46	5.53	6.12	1.60	7.39*	54.91
1903.	4.25	5.63	4.42	4.56	0.99†	7.05	6.05	5.00	4.27	7.32*	1.21	2.90	49.65
1904.	4.93	2.50	3.52	3.43	2.34	3.73	6.20	6.25	5.24	7.01	2.55	3.33	54.13
1905.	3.60	2.45	3.67	2.71	1.13	3.21	2.95	8.07	3.98	3.61	2.22	3.46	44.06
1906.	3.00	2.62	5.42	3.78	6.07	6.10	4.44	1.14	5.00	1.75	2.42	46.92	.....
1907.	3.78	2.86	3.10	3.24	4.57	5.21	3.34	3.00	7.84	4.93	5.73	4.64	52.24
M'ns	3.97	3.28	4.03	3.35	4.31	4.44	5.22	4.53	4.52	3.88	3.38	3.85	48.76

\*Greatest on record.

†Least on record.

Greatest monthly amount, 10.91 inches, May, 1894; least, 0.38 of an inch, October, 1892.

Greatest amount in 24 hours, 4.47 inches, July 30–31, 1889.

Excessive precipitation (2.50 inches, or more, in 24 consecutive hours, or less): 2.77 inches, July 11, 1887; 2.87 inches, March 11–12, 1888; 2.80 inches, August 22, 1888; 2.59 inches, September 8–9, 1888; 3.00 inches, December 17–18, 1888; 3.10 inches, April 26–27, 1889; 4.47 inches, July 30–31, 1889; 3.18 inches, September 15, 1889; 2.60 inches, April 8–9, 1895; 2.74 inches, September 5, 1896; 2.64 inches, September 11, 1899; 4.40 inches, May 19–20, 1900; 3.31 inches, July 30, 1900; 2.81 inches, August 7, 1901; 2.56 inches, December 29, 1901; 3.20 inches, July 24–25, 1902; 4.25 inches, October 9, 1903; 3.41 inches, September 15, 1904; 3.48 inches, October 12, 1904; 3.14 inches, October 21, 1904; 2.64 inches, October 5, 1906; 2.76 inches, September 23, 1907; 2.95 inches, May 7, 1908.

Average number of days with measurable precipitation: January, 10; February, 9; March, 10; April, 9; May, 11; June, 10; July, 11; August, 11; September, 8; October, 7; November, 8; December, 9; annual, 113. Greatest annual number of days with measurable precipitation, 132, 1889; least, 95, 1894.

Average seasonal precipitation: Spring, 11.69 inches; summer, 14.19 inches; autumn, 11.78 inches; winter, 11.10 inches.

Total precipitation for the wettest spring, 1901, 17.72 inches; summer, 1889, 21.11 inches (1887, 21.08 inches); autumn, 1889, 23.90 inches; winter, 1902–3, 17.27 inches.

Total precipitation for the driest spring, 1905, 7.51 inches; (1887, 7.56 inches); summer, 1894, 5.78 inches; autumn, 1887, 6.98 inches (1901, 6.99 inches); winter, 1900–1, 7.13 inches.

Longest period without measurable precipitation, October, 16–November 10, 1901, 26 days.

*Snowfall* (1893–1907).—Average monthly amounts: January, 9.5 inches; February, 12.0 inches; March, 6.2 inches; April, 0.6 of an inch; November, 1.8 inches; December, 5.3 inches; annual, 35.4.

Greatest annual amount, 61.2 inches, 1907; least, 10.2 inches, 1901; greatest winter amount, 51.6 inches, 1904–5; least, 6.2 inches, 1900–1; greatest monthly amount, 29.0 inches (estimated), February, 1899.



CLIMATOLOGICAL DATA FOR SEPTEMBER, 1908.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky.				Prevailing direction of wind.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.			Number cloudy days.
THE HIGHLANDS AND KITTATINNY VALLEY.																				
Layton	Sussex	550	9	63.3	+0.5	90	11	31	*16	46	2.30	-2.16	1.55	0	3	14	9	7	s.w.	Warren C. Hursh.
Sussex	do	442	14	64.8	+0.7	86	19	36	*16	38	1.16	-3.19	0.62	0	3	11	11	8	w.	Prof. W. H. Seeley.
Culver's Lake	do	848	7								2.84	-2.39	1.36	0	3	10	12	8	s.	B. E. Riker.
Newton	do	678	28	65.0	+1.5	89	19	31	30	43	2.30	-1.49	2.09	0	2	11	10	9	s.	B. H. Kienbaum.
Charlotteburg, (b)	Passaic	719	16	63.6	+1.2	85	25	29	30	39	1.07	-3.62	1.32	0	3	10	9	11	w.	G. S. Briggs.
Pompton Plains	Morris	195	6								1.39		0.90	0	3					M. S. Taylor.
Boonton	do	413	11		-0.9						1.51	-1.81	0.92	0	3				ne.	F. G. McIntosh.
Dover	do	575	24	61.8		80	*18	36	30	34	2.60	-2.01	2.00	0	2	8	13	9		William C. Harris.
Belvidere	Warren	289	18	65.2	-1.0	85	*11	38	30	37	1.96	-2.03	0.83	0	4	14	6	10		Samuel J. Hixson.
Phillipsburg	do	196	6	65.8	+0.8	89	25	39	30	36	2.23	-1.54	1.79	0	4	12	9	9	sw.	D. W. Smith.
THE RED SAND-STONE PLAIN.																				
Mahwah	Bergen	70	6								1.42		0.96	0	3				nw.	M. F. Brooks.
River Vale (c)	do	70	17	64.0	+0.5	85	19			38	1.15	-3.02	0.45	0	3	10	11	9	ne.	G. S. M. Holdrum.
Paterson	Passaic	110	32	66.8	+0.5	85	*11	41	30	33	1.41	-2.71	0.91	0	2	10	10	10	sw.	H. A. Probert.
Englewood	Bergen	135	18											0	2	10	10			William C. Tucker.
Little Falls	Passaic	175	6								1.57		0.99	0	3				nw.	F. Farns.
Morristown	Morris	372																		C. Wigley.
South Orange	Essex	200	39	65.0	+0.9	82	*11	41	30	28	1.52	-2.86	0.99	0	3	11	10	9	ne.	W. J. Chandler, M. D.
Chatham	Morris	234	6								2.14		1.10	0	3				sw.	M. A. Butler.
Newark	Essex	140	66	67.5	+1.0	87	19	42	30	31	1.69	-2.13	0.99	0	3	9	11	10	sw.	Wm. Wiener.
New York, N. Y.	New York	314	38	67.8	+1.3	83	19	53	30	20	1.60	-1.99	0.90	0	3	10	11	9	ne.	U. S. Weather Bureau.
Jersey City	Hudson	15	3	68.0		85	19	47	30	26	1.81		1.00	0	3	11	12	7	se.	Samuel K. Pearson, jr.
Bayonne	do	50	18	66.6	-1.3	85	19	43	30	27	1.99	-1.69	1.30	0	3	10	10	10	se.	John H. Eadie.
Bergen Point	do	37	11	66.7	-0.2	84	19	45	30	27	2.15	-2.52	1.48	0	4	9	10	11	nw.	Dr. W. H. Mitchell.
Elizabeth	Union	33	29	67.1	+0.1	84	19	45	30	29	1.74	-2.48	1.15	0	4	10	10	10	se.	W. M. Oliver.
Plainfield	do	100	18	65.5	-0.3	85	19	40	30	35	2.12	-2.77	0.92	0	5	10	10	10	sw.	John Neagle.
Somerville	Somerset	76	29	66.9	+0.5	87	19	41	*16	38	2.14	-1.85	1.04	0	3	13	9	8	se.	Peter Hardesty.
Flemington	Hunterdon	187	11	66.2	-0.6	87	25	40	30	36	3.04	-1.90	2.26	0	4	11	9	10	e.	H. E. Deats.
New Brunswick	Middlesex	61	55	65.4	-0.6	86	19	39	30	34	1.98	-1.01	1.33	0	2	11	9	10	w.	Wm. T. Woerner.
College Farm	do	100	13	64.2	-2.1	85	19	37	30	35	1.93	-2.11	1.15	0	3	8	14	8	se.	Geo. B. Thrasher.
Runyon	do	18	1								1.20		0.62	0	2	12	10	8		J. H. Cottrell.
Lambertville	Hunterdon	95	22	65.5	-0.6	85	25	38	30	34	1.96	-2.56	0.81	0	3	15	8	7	s.	William R. Bowne.
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	17	65.7	-1.7	85	*1	39	30	35	1.62	-2.10	0.82	0	2	10	13	7	e.	Ernst Wenger.
Freehold	Monmouth	187	25								1.43	-3.00	0.85	0	2					F. T. Cooper.
Trenton	Mercer	60	39	65.9	-2.5	82	25	44	30	27	2.60	-1.39	1.36	0	3	10	10	10	sw.	E. R. Cook.
Imlaystown	Monmouth	106	22	65.6	-1.1	86	25	40	30	33	1.71	-2.92	0.96	0	2	10	10	10	e.	F. C. Price, M. D.
Burlington	Burlington	12	16								1.97	-1.94	0.98	0	4	11	12	7	nw.	D. S. B. McCoy.
Rancocas	do	68	23			85	19	47	30		1.89	-2.35	1.00	0	2	17	7	6	ne.	Spencer Haines.
Brown's Mills, (g)	do	71	2	65.8		90	25	33	30	42	1.58		0.85	0	4					M. W. Hargrove.
Moorestown	do	71	44	66.0	+0.2	84	25	43	30	30	1.82	-2.01	0.98	0	3	16	7	7	s.	John C. Beans.
Philadelphia, Pa.	Philadelphia	117	38	68.1	+0.7	85	19	50	30	24	1.79	-1.59	1.12	0	3	12	10	8	nw.	U. S. Weather Bureau.
Toms River	Ocean	33	17																	F. G. Bunnell.
Haddonfield	Camden	75		66.0		86	25	40	30	31	1.97		0.97	0	4	12	9	9	se.	C. F. Richardson.
Indian Mills	Burlington	76	8	65.7	-1.8	87	12	36	30	40	2.08	-2.91	1.26	0	4	17	6	7	se.	James Armstrong.
Clayton	Gloucester	126	12	65.8	-1.8	85	*12	40	30	33	2.30	-1.61	1.43	0	4	15	8	7	sw.	Wm. T. Farley.
Hammonton	Atlantic	80	11								2.41		1.49	0	4	13	10	7		Orville Bassett.
Tuckerton	Ocean	23	11	65.4	-1.3	84	19	39	30	32	2.81	-0.84	2.32	0	2	14	9	7	w.	F. R. Austin.
Egg Harbor City	Atlantic	63	19			88	12	43	30	33	3.05	-1.30	2.40	0	3	12	10	8	w.	Charles Sallmann.
Friesburg	Salem	100	16	65.8	-2.0	87	12	39	30	33	2.33	-1.63	1.36	0	5	12	11	7	w.	H. C. Perry.
Vineyard	Cumberland	118	41	65.8	-1.2	86	12	40	30	37	2.29	-1.59	1.53	0	4	11	11	8	nw.	Alfred Chalmers.
Canton	Salem	24	7								2.46	-0.65	1.54	0	3	16	9	5		J. H. Maskell.
Bridgeton	Cumberland	30	33	67.6	-1.2	88	12	40	30	36	2.87	-0.52	1.62	0	3	12	9	9	sw.	Henry A. Jorden.
Pleasantville	Atlantic	26	11								2.94	-0.95	1.58	0	5	8	9	13		L. Van Gilder.
Northfield	do										3.08		1.75	0	4					Wm. L. Flick.
Port Norris	Cumberland	8									3.02		2.40	0	3					J. H. Barraclough.
Woodbine	Cape May	43	17	64.0	-3.0	82	12	39	30	33	2.88	-1.15	1.67	0	4	10	10	10	s.	R. D. Maltby.
Cape May C. H.	do	19	21	66.0	-1.8	81	12	45	30	27	2.74	-0.31	1.61	0	3	7	12	11	w.	L. T. Garretson.
THE SEA COAST.																				
Oceanie	Monmouth	16	22	65.9	-1.5	83	19	50	30	27	1.28	-3.13	0.74	0	2	12	6	12	nw.	Prof. C. E. Dietz.
Long Branch	do	30		66.8		84	19	46	30	27	0.95		0.54	0	2	10	11	9	se.	B. B. Bobbitt.
Asbury Park	do	22	20	66.2	-1.0	82	19	49	30	26	1.21	-2.25	0.61	0	3	12	11	7	e.	B. H. Obert.
Atlantic City	Atlantic	16	35	66.4	-1.2	87	12	49	30	24	4.13	+1.08	3.16	0	5	8	9	13	e.	Section Center.
Cape May City	Cape May	17	24	66.8	-2.2	84	12	46	30	20	2.54	-0.46	1.32	0	6	9	10	11	s.	U. S. Weather Bureau.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\*Occurred on more than one date.

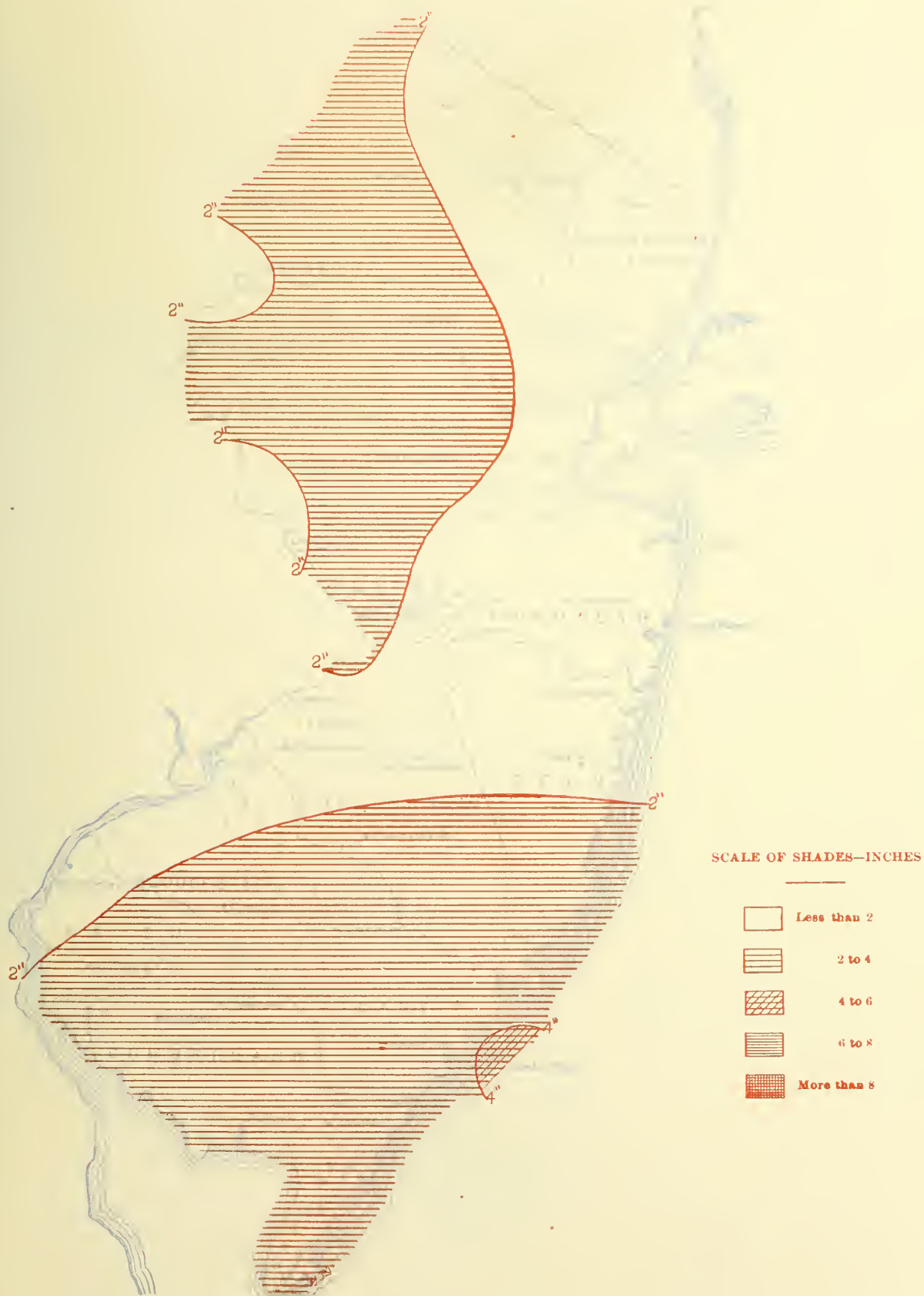


[illegible]

THE SEA COAST.



**Total Monthly Precipitation, September, 1908.**



## DAILY PRECIPITATION FOR SEPTEMBER, 1908.

Stations.	Day of month.																																
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
THE HIGHLANDS AND KITTA-TINNY VALLEY.																																	
Layton						.10																						1.55	.65			2.	
Sussex		T.				.07																						.47	.62			1.	
Culver's Lake						.31																						1.30	1.17			2.	
Newton						.21																						2.09				2.	
Charlotteburg						.35																						*	1.32			1.	
Pompton Plains						.49																						.06	.84			1.	
Boonton						.59																						T.	.92			1.	
Dover						.60																						2.00				2.	
Belvidere					*	.45																						.68	.83			1.	
Phillipsburg					*	.44																						.95	.84			2.	
THE RED SAND STONE PLAIN.																																	
Mahwah						.46																						*	.96			1.4	
River Vale						.40																						.30	.45			1.1	
Paterson						.50																						.91				1.4	
Englewood																																	
Little Falls						.58																						.10	.89			1.5	
Morristown																																	
South Orange						.99																				T.		T.	.53			1.5	
Chatham						1.10																						*	1.04			2.1	
Newark						.99																						.35	.35			1.6	
New York, N. Y.						.90													T.								.45	.25			1.6		
Jersey City						1.00													T.	T.							.02	.79			1.8		
Bayonne						1.30													T.	T.							.01	.68			1.9		
Bergen Point					*	1.48													T.	T.							.01	.66			2.1		
Elizabeth					*	1.15																						*	.59			1.7	
Plainfield					.05	1.15	T.												T.								.12	.80			2.1		
Somerville						1.04																						.30	.80			2.1	
Flemington					*	.78																						.88	1.38			3.0	
New Brunswick						1.33																						.65				1.9	
College Farm						1.15																						.12	.66			1.9	
Runyon						.58																						T.	.62			1.2	
Lambertville						.67																						.48	.81			1.9	
THE SOUTHERN INTERIOR.																																	
Hightstown						.80																							.82				1.6
Freehold						.58																							.85				1.4
Trenton					*	1.36																						1.24				2.6	
Imlaystown						.75																							.96				1.7
Burlington					*	.98																							.04	.95			1.9
Rancocas					T.	1.00																							.89				1.8
Brown's Mills					*	.85																							.03	.70			1.5
Moorestown					*	.98																							.84				1.8
Philadelphia, Pa.					T.	.04	1.08												T.									.67	T.			1.7	
Toms River																																	
Haddonfield					*	.97													T.										.31	.69			1.9
Indian Mills					*	1.26																							.33	.49			2.0
Clayton					*	1.43																							*	.87			2.3
Hammonton					*	1.49																							.38	.54			2.4
Tuckerton						2.32																								.49			2.8
Egg Harbor City						2.40																							*	.65			3.0
Friesburg					*	1.36																							.19	.75			2.3
Vineland					*	1.53																							.28	.48			2.2
Camden					*	1.54																							.92				2.4
Bridgeton					*	1.62																							.50	.75			2.8
Pleasantville					*	1.58																							.21	1.08			2.9
Northfield						1.75																							.05	1.15			3.0
Port Norris						2.40																							.12	.50			3.0
Woodbine						1.67																							.18	.91			2.8
Cape May C. H.						1.61																							.16	.97			2.7
THE SEA COAST.																																	
Oceanic						.54																											1.2
Long Branch						.41																							T.	.54			0.9
Asbury Park						.60																							*	.61			1.2
Atlantic City						.01	3.15																						.19	.63			4.1
Cape May City						.10	1.22																						.86	.23			2.5

\*Precipitation measured in the morning.

T. indicates amount too small to measure.

\*Precipitation included in that of the following day.



UNNJ

U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR OCTOBER, 1908.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

---

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF

WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



ALBANY, N. Y.

WEATHER BUREAU OFFICE

NOVEMBER 19, 1908

# **Monthly Mean Isotherms and Prevailing Winds, October, 1908.**





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XXI. ATLANTIC CITY, N. J., OCTOBER, 1908. No. 10.

## GENERAL SUMMARY.

Mild and pleasant weather prevailed during the greater part of October, 1908. The monthly mean temperature was the highest recorded for October in a period of 24 years, with a single exception—1900. Other features of the month were the light rainfall and the large number of clear days of the first and second decades, and the excessive cloudiness of the third decade. There was nearly the normal amount of sunshine for the month as a whole.

The mean temperature ranged from  $53^{\circ}$  to  $60^{\circ}$ , and was above the normal thruout the State, the most marked excess, averaging about  $4^{\circ}$  per day, occurring in portions of Burlington and Hunterdon counties. The temperature was below the normal during the first six days of the month and again from the 12th to the 14th, the accumulated deficiency of these periods continuing until near the close of the second decade. Periods with temperature much above the normal extended from the 15th to the 19th and the 23d to the 28th, the excess during the first mentioned period resulting from high mid-day temperatures and during the second period from unseasonably warm nights. The highest temperatures of the month occurred mostly on the 16th, 17th and 18th, the monthly maximum ( $92^{\circ}$ ) being unusually high for October. Low night temperatures were reported during the first part of each decade and at the close of the month, the lowest occurring at most stations on the 13th. Killing frost formed over scattered localities on the morning of the 3d, but the first widespread killing frost of the season occurred on the morning of the 13th. The immediate coast was free from destructive frost.

Less than 2 inches of rain were received during the month over portions of Atlantic, Camden, Cumberland, Hudson, Monmouth, Passaic, and Salem counties, and generally less than 3.50 inches elsewhere—small areas in Bergen, Hunterdon, Morris, Somerset, and Sussex counties receiving from 4 to slightly more than 5 inches. As compared with the normal, there was a decided deficiency for the State as a whole, altho an excess of about 1 inch occurred at a few stations in Hunterdon and Somerset counties. Over the regions of least monthly precipitation the local deficiencies ranged from 2 to 3 inches, the most pronounced lack of moisture being reported from parts of Hudson, Monmouth, and Passaic counties. Precipitation during the first and second decades was light and infrequent, the bulk of

the monthly rainfall occurring during the latter part of the third decade, when drought conditions and water famine were relieved over most of the State.

There was a considerable amount of morning fog during the month.

## TEMPERATURE.

The monthly mean,  $57.3^{\circ}$ , was  $2.9^{\circ}$  above the normal. The mean maximum was  $68.3^{\circ}$ , the mean minimum  $46.3^{\circ}$ , and the mean daily range  $22.0^{\circ}$ . 54.4

The means for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley,  $54.3^{\circ}$ ,  $+2.7^{\circ}$ ; Red Sand Stone Plain,  $57.2^{\circ}$ ,  $+2.9^{\circ}$ ; Southern Interior,  $58.6^{\circ}$ ,  $+3.0^{\circ}$ ; Sea Coast,  $59.3^{\circ}$ ,  $+2.8^{\circ}$ .

The highest monthly mean was  $60.2^{\circ}$ , at Bridgton, and the lowest,  $52.6^{\circ}$ , at Layton, the range of monthly mean temperature being  $7.6^{\circ}$ .

The highest temperature,  $92^{\circ}$ , occurred at Imlaystown, on the 18th, and the lowest,  $19^{\circ}$ , at Charlotteburg, on the 13th, the range within the State being  $73^{\circ}$ .

The greatest local monthly range,  $68^{\circ}$ , occurred at Charlotteburg, and the least,  $38^{\circ}$ , at Cape May.

The greatest daily range,  $51^{\circ}$ , occurred at River Vale, on the 9th.

## PRECIPITATION.

The average, 2.71 inches, was 1.22 inches below the normal, the averages for the various districts, with the departures from the normal, being as follows: The Highlands and Kittatinny Valley, 3.14 inches,  $-0.90$  inch; Red Sand Stone Plain, 3.03 inches,  $-0.85$  inch; Southern Interior, 2.36 inches,  $-1.56$  inches; Sea Coast, 2.21 inches,  $-1.55$  inches. 3.93

The greatest amount, 5.14 inches, occurred at Flemington, and the least, 1.47 inches, at Asbury Park.

The greatest 24-hour amount, 2.86 inches, occurred at Atlantic City, on the 29–30th.

Excessive precipitation occurred as follows: Atlantic City, 2.86 inches, on the 29–30th; Flemington, 2.66 inches, on the 26th.

Measurable precipitation occurred on an average of 8 days.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 15; partly cloudy, 5; cloudy, 11. The following percentages of the possible amount of sunshine were reported: Atlantic City, 61; Hightstown, 57; Jersey City, 59.

## WIND.

Northeast winds prevailed. Brisk to moderately high winds occurred on the 2d, 12th, 20th, 21st, 29th, 30th, 31st. Northeast gales occurred at sea on the 20th–21st, and the 29th. The highest wind velocities reported from regular Weather Bureau stations, for 5-minute periods, were as follows: Atlantic City, 32 miles from the northeast, on the 29th; Cape May, 32 miles from the northwest, on the 29th.

## MISCELLANEOUS PHENOMENA.

Smoke (dates of).—9th, 16th to 19th.

Halos, solar.—Moorestown, 20th; Oceanic, 10th. 3.80

*Halos, lunar.*—Indian Mills, Jersey City, Oceanic, Vineland, 8th; Trenton, 9th.

*Fog* (dates of).—1st, 3d, 5th to 9th, 14th to 18th, 23d, 26th to 29th.

*Thunderstorms* (dates and number of reports).—25th, 1; 26th, 25; 27th, 24; 28th, 6; 29th, 13. Thunderstorms occurred at regular Weather Bureau stations as follows: Atlantic City, Cape May, 29th.

#### COMPARATIVE STATE DATA FOR OCTOBER.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1885.....	53.6	82	29	4.15
1886.....	55.2	88	21	3.44
1887.....	52.3	89	21	2.61
1888.....	49.2	73	25	4.73
1889.....	50.8	82	23	3.80
1890.....	53.9	81	24	6.33
1891.....	52.8	92	18	3.44
1892.....	53.6	85	21	0.52 X
1893.....	55.2	85	17	4.22
1894.....	55.3	87	27	5.67
1895.....	49.9	88	18	3.60
1896.....	51.5	82	21	2.24
1897.....	55.8	95	22	2.43
1898.....	56.5	88	24	5.76
1899.....	56.6	86	18	2.72
1900.....	59.9	92	19	3.70
1901.....	54.4	82	21	1.93
1902.....	56.0	80	20	6.39
1903.....	55.9	86	24	8.92
1904.....	51.9	89	15	3.78
1905.....	55.5	90	17	2.71
1906.....	55.0	80	11	4.46
1907.....	50.6	80	18	4.46
1908.....	57.3	92	19	2.71
1909.....	51.2	84	18	1.18

#### THE DROUGHT OF SEPTEMBER-OCTOBER, 1908.

The drought that set in over the middle and northern districts of the United States east of the Rocky Mountains in the latter part of August, 1908, was felt to a considerable extent thruout New Jersey during much of September, 1908, being most severe over the northern counties.

The average precipitation for the State for September, 1908, (2.09 inches), was the fourth smallest of record for this month in a period of 22 years. As compared with the normal, there was an average deficiency in moisture of practically 2 inches, local deficiencies of more than 3 inches occurring over several, scattered localities in the central and northern portions of the district. The total monthly rainfall was less than 2 inches over a large part of the State. There were only two storm periods, the first covering the 5-6th and the second the 28-29th, the intervening period being rainless. The precipitation on the 5-6th was generally heavy over the southern half of the State and a few of the north-central counties, and light and insufficient over the extreme northern counties. The latter-named condition was nearly reversed during the last storm period of the month, several northern localities receiving rainfall of slightly more than 2 inches, while the greater part of the southern counties received less than 1 inch. It may be said in general terms that the more northern counties experienced generally dry weather from near the close of August until the latter part of September, and the southern half of the State from September 7 to 27, inclusive. The unfavorable effect of the drought began

to be felt early in the month over a large part of the district, the most serious feature being the failure of the water supply in the extreme northern counties. Small streams, springs, ponds and wells became dry, and as the month advanced a critical situation developed. During the latter part of the month the Delaware River was at unusually low stages along nearly its entire course, and the lowness of other, swifter-moving, rivers within the State forced numerous industrial plants to curtail, or suspend, operations. A heavy pall of smoke from forest fires covered the greater portion of the district at times, altho no extensive damage from fires within the State was reported.

The rains near the close of the month, while beneficial in partially relieving the effects of the drought, were hardly sufficient to restore to the soil its normal amount of moisture, and as very little rain fell during the first two decades of October, the water famine continued until about the middle of the third decade of October, being then quite generally relieved by copious rains.

Conditions during the three months preceding the drought were variable. No rain of consequence fell during the first and latter parts of June, 90 per cent of the total monthly amount having occurred in a single storm of brief duration in the middle of the month. A marked deficiency in precipitation was reported over much the greater portion of the State, and at the close of the month many localities needed moisture. During July the rainfall was for the most part below the normal over the northern and eastern counties and decidedly above the normal at a few stations in the south, a marked feature being the numerous instances of wide discrepancies in the monthly amounts over adjoining areas. Drought conditions, extending from June, were partially broken over scattered localities about the middle of the month, but were not wholly relieved until the first part of the third decade, when copious and quite well distributed showers occurred. During August there was, as in July, an uneven geographical distribution of rainfall; the monthly amounts ranging from about 2.50 inches to slightly more than 9 inches, local deficiencies of from 1 to 3 inches being reported over small areas. Altho the greater part of the State received heavy rains in the third decade of the month, they failed to sustain the soil thru the dry-weather period of September.

In comparison with similar occurrences of previous years, the several droughts of 1908 do not appear to have been record-breakers, except possibly over limited portions of the State. Examples of uncommonly dry single months during the growing season in past years are numerous. Among these may be mentioned June, 1901; July, 1894; August, 1896, and September, 1884, 1885, 1892, 1895, and 1897, all of which had less precipitation than September, 1908. The driest September of record is probably that of 1884, the average rainfall of nine well distributed stations in New Jersey having been only 0.30 inch. The summers of 1894 and 1900 were marked by a great deficiency in precipitation, the total rainfall having been only 6.52 inches and 7.50 inches, respectively. The records indicate that the latter-named droughts, as well as the memorable one of July, August, and September, 1881, were more destructive to vegetation, at least, than the several short droughts of the current year.—L. A. J.



## CLIMATOLOGICAL DATA FOR OCTOBER, 1908.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.					Sky.				Prevailing direction of wind.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.		
THE HIGHLANDS AND KITTATINNY VALLEY.																				
Layton, (a)	Sussex	550	9	52.6	+2.6	87	17	21	*13	50	3.75	-0.31	1.88	0	7	16	3	12	n.	Warren C. Hursh.
Sussex	do	442	14	54.2	+1.8	85	*16	24	13	43	2.22	-1.58	0.80		10	15	4	12	s.w.	Prof. W. H. Seeley.
Crilver's Lake	do	848	7								4.25	-0.82	2.02	T.	8	15	5	11	e.	B. E. Riker.
Newton	do	678	28	54.4	+2.7	89	*16	25	13	46	3.05	-0.81	1.03		8	15	5	11	n.	B. H. Kienbaum.
Charlottesville	Passaic	719	16	53.4	+2.6	87	17	19	13	49	3.64	-1.38		T.	9	17	3	11	e.	G. S. Briggs.
Pompton Plains	Morris	195	6								2.21		0.50	0	11				n.w.	M. S. Taylor.
Boonton	do	413	11								2.34	-1.01	0.61	0	11				n.w.	F. G. McIntosh.
Dover	do	575	24	53.0	+2.3	85	17	25	13	43	4.21	+0.90	2.00	T.	10	15	7	9		William C. Harris.
Belvidere	Warren	289	18	50.4	+3.4	87	*17	27	13	45	2.80	-1.10	1.00	0	9	15	4	12		Samuel J. Hixson.
Phillipsburg	do	196	6	56.3	+3.6	87	*17	30	13	42	2.88	-0.48	0.90	0	12	15	4	12	e.	D. W. Smith.
THE RED SAND-STONE PLAIN.																				
Mahwah	Bergen		6								2.60		0.96	0	9				ne.	M. F. Brooks.
River Vale, (b)	do	70	17	54.4	+2.1	87	17	21	13	51	4.10	-0.99		0		16	3	12	n.w.	G. S. M. Holdrum.
Paterson	Passaic	110	32	57.8	+3.5	90	17	31	13	41	1.64	-3.00	0.53	0	8	14	6	11	n.w.	H. A. Probert.
Englewood	Bergen	135	18											0	8					William C. Tucker.
Little Falls	Passaic	175	6																	F. Fearn.
Morristown	Morris	372																		C. Wigley.
South Orange	Essex	200	39	56.1	+3.2	82	17	31	13	34		-1.08		T.	9	18	3	10		W. J. Chandler, M. D.
Chatham	Morris	234	6								3.12		0.98	0	10				ne.	M. A. Butler.
Newark	Essex	140	66	57.9	+3.5	90	17	32	13	41	2.10	-1.70	0.67	0	10	13	6	12	n.w.	Wm. Wiener.
New York, N. Y.	New York	314	38	59.6	+4.0	84	17	38	31	25	1.92	-1.79	0.86	0	9	14	6	11	ne.	U. S. Weather Bureau.
Jersey City	Hudson	15	3								1.87		0.68	0	10	12	6	13	n.	Samuel K. Pearson, jr.
Bayonne	do	50	18	57.8	+2.1	87	18	35	*13	31	2.02	-2.52	0.79	T.	0	12	7	12	se.	John H. Eadie.
Bergen Point, (†)	do	37	11	57.8	+2.2	85	18	35	13	39	2.02	-2.75	1.08	0	9	10	10	11	n.w.	Dr. W. H. Mitchell.
Elizabeth	Union	33	29	57.6	+2.9	83	16	35	33	36	2.53	-1.80	0.70	0	9	10			ne.	W. M. Oliver.
Plainfield, (†)	do	37	18	56.6	+2.6	87	17	29	13	43	3.59	-0.59	2.07	0	10	17	5	9	ne.	John Neagle.
Somerville	Somerset	76	29	57.1	+3.4	88	*17	20	13	43	4.34	+0.89	2.30	0	11	14	5	12	ne.	Peter Hardcastle.
Flemington	Hunterdon	187	11	57.2	+2.1	89	17	30	13	44	5.14	+0.95	2.66	0	11	15	6	10	e.	H. E. Deats.
New Brunswick, (b)	Middlesex	61	55	57.0	+2.3	85	*16	28	13	42	3.59	-0.04	1.50	0	11	15	6	10	e.	Wm. T. Woerner.
College Farm	do	100	13			84	18	25	13	39	3.67	-0.42	1.28	0	11	17	3	11	ne.	Geo. B. Thrasher.
Runyon, (†)	do	18	1								2.05		1.19	0	6	15	4	8		J. H. Cottrell.
Lambertville, (a)	Hunterdon	95	22	57.7	+4.2	86	18	30	13	42	3.33	-0.55	0.99	0	11	15	4	12	n.w.	William R. Bowne.
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	17	58.1	+3.6	91	18	28	13	47	3.20	-0.85	1.56	0	8	14	5	12	e.	Ernst Wenger.
Freehold	Monmouth	187	25								1.70	-1.89	0.80	0	6					F. T. Cooper.
Trenton	Mercer	60	39	58.8	+1.7	82	18	33	13	34	3.16	-0.66	1.27	0	9	15	6	10	n.w.	E. R. Cook.
Imlaystown, (a)	Monmouth	106	22	57.8	+2.9	92	18	31	13	45	2.63	-1.58	0.73	0	8	16	4	11	e.	F. C. Price, M. D.
Burlington	Burlington	12	16								2.68	-1.48	1.00	0	10				n.w.	D. S. B. McCoy.
Rancocas	do	68	23								2.30	-1.81	1.12	0	10	15	3	13	ne.	Spencer Haines.
Brown's Mills	do	71	2																	M. W. Hargrove.
Moorestown	do	71	44	58.4	+4.2	86	18	33	14	41	2.14	-1.59	1.09	0	9	16	4	11	n.	John C. Beans.
Philadelphia, Pa.	Philadelphia	117	38	60.6	+4.3	85	18	40	31	29	1.81	-1.29	1.08	0	10	14	5	12	n.w.	U. S. Weather Bureau.
Toms River	Ocean	33	17																	F. G. Bunnell.
Haddonfield	Camden	75		58.3		89	18	31	13	44	1.96		1.10	0	12	16	5	10	ne.	C. F. Richardson.
Indian Mills	Burlington	76	8	58.1	+2.9	90	18	27	*13	50	2.76	-1.65	1.61	0	8	16	5	10	ne.	James Armstrong.
Clayton	Gloucester	126	12	58.2	+1.9	88	18	32	*13	43	2.21	-1.33	0.73	0	6	15	7	9	n.w.	Wm. T. Farley.
Hammonton	Atlantic	80	11								1.72	-2.01	0.64	0	7	11	8	12		Orville Bassett.
Tuckerton	Ocean	23	11	58.3	+2.9	84	18	31	31	41	2.46	-1.91	1.18	0	6	13	9	9	e.	F. R. Austin.
Egg Harbor City	Atlantic	63	19								2.10	-2.09		0	4	15	6	10	ne.	Charles Snaumann.
Friesburg, (†)	Salem	100	16	58.9	+2.7	89	18	32	13	43	1.87	-2.00	0.68	0	12	12	11	8	e.	H. C. Perry.
Vineland	Cumberland	118	41	58.7	+3.2	89	18	32	*3	45	1.67	-1.89	1.10	0	6	16	6	9	se.	Alfred Chalmers.
Canton	Salem	24	7								2.00	-1.94	1.36	0	7	16	5	10		J. H. Maskell.
Bridgeton	Cumberland	30	33	60.2	+3.2	88	18	34	13	43	1.55	-2.57	1.17	0	6	15	4	12	ne.	Henry A. Jorden.
Pleasantville	Atlantic	26	11								3.59	-0.68	2.05	0	5	15	6	10		L. Van Gilder.
Northfield	do										2.80		1.40	0	5					Wm. L. Flick.
Port Norris	Cumberland	8									2.29		2.17	0	5					J. H. Barraclough.
Woodbine	Cape May	43	17																	R. D. Maltby.
Cape May C. H.	do	19	21	59.8	+3.1	83	16	37	3	31	2.46	-1.01	1.22	0	5	12	7	12	ne.	L. T. Garretson.
THE SEA COAST.																				
Oceanic	Monmouth	16	22	59.0	+3.7	86	18	35	31	37	1.54	-2.70	0.64	0	8	18	4	9	e.	Prof. C. E. Dietz.
Long Branch	do	30																		B. B. Bobbitt.
Asbury Park	do	22	20	59.2	+3.6	83	18	35	31	30	1.47	-2.76	0.69	0	8	15	6	10	e.	B. H. Obert.
Atlantic City	Atlantic	16	35	59.5	-2.1	83	16	36	31	29	3.18	-0.12	2.86	0	5	14	4	13	ne.	Section Center.
Cape May City	Cape May	17	24	59.6	+2.0	78	*16	40	13	22	2.66	-0.64	2.09	0	6	15	10	6	ne.	U. S. Weather Bureau.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observation.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\*Occurred on more than one date.

† Report not received in season to be considered in averages.

### Stations.






[illegible]



### Total Monthly Precipitation, October, 1908.



SCALE OF SHADES—INCHES

	Less than 2
	2 to 4
	4 to 6
	6 to 8
	More than 8

## DAILY PRECIPITATION FOR OCTOBER, 1908.

Stations.	Day of month.																															Total.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
THE HIGHLANDS AND KITTA-TINNY VALLEY.																																	
Layton		.35								*	.37														.10	1.88	.53	.52				3.75	
Sissex		.07								*	.25												T.	.10	.02	.80	.33	.45	.08	.12		2.22	
Quiver's Lake		.35									.37													.15	.09	2.02	.59	.57	.11		T.	4.25	
Newton		.26									.14												T.	.15	T.	1.63	.24	.55	.08			3.05	
Charlottesville		.21								*	.43												*	*	2.32		.43	.25			T.	3.64	
Pompton Plains		.17								*	.18												*	.02	.24	.20	.40	.28	.50	.22		2.34	
Boonton		.04								*	.16												*	.12	.09	.61	.22	.12	.61	.37		2.20	
Dover		.18								*	.32												*	*	*	.45	2.00	.46	.58	.22		T.	4.21
Belvidere	*	.51								*	.11														.32	.19	1.00	.05	.62			2.80	
Phillipsburg	*	.58								*	.11												*	.10	.30	.90	.14	.68	.05	.02		2.88	
THE RED SAND STONE PLAIN.																																	
Mahwah		.13									.24													*	.44	*	.96	*	.55	.28		2.60	
River Vale										*	.21												T.	.04	.08	.53	T.	.28	.38			1.64	
Paterson		.12																															
Englewood																																	
Little Falls																																	
Morristown										*	.23												T.	.17	T.	1.18	.08	.32	.35	.25	T.	2.70	
South Orange		.12								*	.40												*	.14		.98	.20	.30	.45	.50		3.12	
Chatham		.15									.02												.02	.10	.67	.04	.60	.40	.05			2.10	
Newark		.09							T.	.19	.01	.04	.82	.08	.16								T.	T.	.04	.82	.08	.16	.55	.03		1.62	
New York, N. Y.		.04								.01	.14												.01	.01	T.	.68	.03	.25	.21	.46	T.	1.87	
Jersey City		.07								T.	.12												.02	T.	.01	.79	.09	.26	.27	.39	T.	2.02	
Bayonne		.07								*	.17												.03	T.		1.08	.10	.30	.28	.50		2.53	
Bergen Point		.10								.15													.06		*	*	.98	.26	*		.70	2.25	
Elizabeth																																	
Plainfield																																	
Somerville	*	.22								*	.25													.08	.12	2.30	.08	.62	.29	.38		4.34	
Flemington	*	.19								*	.33													.20	.03	2.66	.05	1.13	*	.55		5.14	
New Brunswick	*	.18								*	.15													.05	.03	1.50	.30	.40	.25	.73		3.59	
College Farm	*	.18								*	.16													.06	.77	1.28	.06	.23	.38	.55		3.67	
Runyon																																	
Lambertville	*	.22								*	.25													.10	.04	.99	.09	.71	.20	.73		3.33	
THE SOUTHERN INTERIOR.																																	
Hightstown									.05	*	.08														.16	.05	1.56		.63	.67		3.20	
Freehold										.02														.05	.05	.76	.02		.80			1.70	
Trenton	*	.16						T.		*	.15													.11	.08	1.27		.47	.92			3.16	
Imlaystown										*	.14												T.	.11	*	1.35	.43	.31	.59			2.63	
Burlington		.10								*	.17												.02	.12	.12	.75	.04	.36	1.00			2.68	
Rancocas		.10						T.		*	.10												T.	.06	.20	.50	.12	.10	.75	.37	T.	2.30	
Brown's Mills																																	
Moorestown	*	.09								T.	.14												T.	.10	.10	.42	.06	.14	.51	.58	T.	2.17	
Philadelphia, Pa.	.08	.04								.05	.01												.01	.04	T.	.26	T.	.24	.07	.01		1.81	
Toms River																																	
Haddonfield		.10						.01	T.	.05	.05												.02	.03	.04	.30	.08	.18	.65	.45		1.66	
Indian Mills										T.	.12												T.	.08	.02	1.61	.12	.07	.32	.42		2.76	
Clayton																							T.	.20		.49	.00	*	.70	.73		2.21	
Hammononton											.11													.03	T.	.51	.13	.08	.39	.37		1.62	
Tuckerton											.13														.10	.02		.23	.80	1.18		2.46	
Egg Harbor City										T.	.15																	*	*	1.95		2.10	
Friesburg																																	
Vineland										T.	*	.03											T.	T.		.39	T.	.15	.29	.81		1.67	
Canton		.07									.06	*	.10										T.	T.	.11	.11	.04	.25	1.36			2.00	
Bridgeton	T.											.07												.03		.10		.15	1.17			1.55	
Pleasantville											.10															.01		.01	2.05	1.45		3.59	
Northfield																										.11		.02	1.17	1.40		2.80	
Port Norris															T.								.01	T.	T.	.02		.04	2.17	.05		2.29	
Woodbine																																	
Cape May C. H.									T.	T.	.05																	.05	.02	1.22	1.12		2.46
THE SEA COAST.																																	
Oceanic										*	.12													.01			.49	.12	.16	.15	.49		1.54
Long Branch																																	
Asbury Park										.01	*	.08																					1.47
Atlantic City											.05											T.	.01				.30	.27	.01	.30	.50		3.18
Cape May City	T.										.03											T.	T.				.02	T.	.30	2.33	.56		3.18
											.03													.01	T.				.30	2.09	.21		2.66

†Precipitation measured in the morning.

T. indicates amount too small to measure.

\*Precipitation included in that of the following day.



U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR NOVEMBER, 1908.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF  
WILLIS L. MOORE  
CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS  
SECTION DIRECTOR



ALBANY, N. Y.  
WEATHER BUREAU OFFICE  
DECEMBER 22, 1908

# Monthly Mean Isotherms and Prevailing winds, November, 1908.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XXI. ATLANTIC CITY, N. J., NOVEMBER, 1908. No. 11.

## GENERAL SUMMARY.

A large part of November, 1908, was fair and mild, altho the first two decades were marked by occasional abrupt and decided temperature changes. As in the preceding two months, the precipitation was decidedly below the normal, the average being the smallest recorded for November in a period of 24 years, with a single exception—1890. There was excessive sunshine in the southern counties, slightly more than the average in the central counties, and about the normal amount in the northern part of the State.

The mean temperature ranged from  $39^{\circ}$  to  $48^{\circ}$ , and averaged practically normal for the State as a whole. An excess of about  $1^{\circ}$  per day was reported from a few stations in Burlington, Cumberland, Essex, and Sussex counties, and a like deficiency occurred in parts of Bergen, Mercer, and Somerset counties. The departures of mean temperature from the normal elsewhere were unimportant. The first and second decades were alternately cold and mild, the chief mild period extending from the 7th to the 11th, and the principal cold period from the 13th to about the 17th. Mild weather prevailed during most of the third decade, the temperature reaching the maximum for the month at numerous stations on the 24th and 26th. There was the usual amount of freezing weather at night thruout the month, the lowest temperatures occurring on the 16th, as a rule. The monthly minimum temperature,  $2^{\circ}$ , was the lowest recorded for November since 1885, altho a minimum of  $3^{\circ}$  occurred in November, 1903. Portions of the eastern coast and the Delaware Bay counties that escaped destructive frost in October, were visited by killing frost in the first part of the month.

The monthly precipitation nowhere exceeded 1.50 inches, and was less than 1 inch over large areas. As compared with the normal, there was a deficiency for the State at large of nearly 2.50 inches, the mean departures from the normal being quite uniform over the several districts. The most pronounced local deficiencies (more than 3 inches) occurred over portions of Bergen, Essex, Mercer, and Middlesex counties. Practically no appreciable precipitation was received during the first decade, and the third decade was rainless over scattered areas. The greater part of the precipitation of the month was received, in the form of rain, sleet, and snow, in a single storm, on the 14-15th. The snowfall attending this storm ranged from 5 to nearly 8 inches over some of the northern counties, but the depths on the ground disappeared within a few days.

Dense fog impeded navigation off the coast and in Delaware River and Bay, at times during the month, especially from the 22 to the 26th.

## TEMPERATURE.

The monthly mean,  $43.1^{\circ}$ , was nearly normal. The mean maximum was  $52.3^{\circ}$ , the mean minimum  $33.9^{\circ}$ , and the mean daily range  $18.4^{\circ}$ .

The means for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley,  $40.3^{\circ}$ ,  $0.0^{\circ}$ ; Red Sand Stone Plain,  $42.5^{\circ}$ ,  $-0.4^{\circ}$ ; Southern Interior,  $44.8^{\circ}$ ,  $+0.2^{\circ}$ ; Sea Coast,  $45.4^{\circ}$ ,  $-0.1^{\circ}$ .

The highest monthly mean was  $47.6^{\circ}$ , at Cape May and the lowest,  $38.8^{\circ}$ , at Layton, the range of monthly mean temperature being  $8.8^{\circ}$ .

The highest temperature,  $72^{\circ}$ , occurred at Inlaystown, on the 26th, and at Indian Mills, on the 24th and 26th, and the lowest,  $2^{\circ}$ , at Layton, on the 16th, the range within the State being  $70^{\circ}$ .

The greatest local monthly range,  $61^{\circ}$ , occurred at Layton, and the least,  $34^{\circ}$ , at Cape May.

The greatest daily range,  $41^{\circ}$ , occurred at Layton, on the 3d.

## PRECIPITATION.

The average, 0.96 inches, was 2.42 inches below the normal, the averages for the various districts, with the departures from the normal, being as follows: The Highlands and Kittatinny Valley, 0.88 inch,  $-2.51$  inches; Red Sand Stone Plain, 0.88 inch,  $-2.57$  inches; Southern Interior, 1.06 inches,  $-2.30$  inches; Sea Coast, 1.05 inches,  $-2.18$  inches.

The greatest amount, 1.29 inches, occurred at Indian Mills, and the least, 0.35 inch, at Newark.

The greatest 24-hour amount, 1.07 inches, occurred at Indian Mills, on the 14-15th.

No excessive precipitation occurred.

The average depth of snowfall, unmelted, was 2.2 inches. The greatest monthly amount was 7.7 inches at Phillipsburg, and the greatest 24-hour depth 7.4 inches, at the same station on the 14th.

Measurable precipitation occurred on an average of 4 days.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 14; partly cloudy, 8; cloudy, 8. The following percentages of the possible amount of sunshine were reported: Atlantic City, 73; Hightstown, 63; Jersey City, 52.

## WIND.

Northwest winds prevailed. Brisk to moderately high winds were reported on the 3d, 4th, 5th, 12th, 13th, and 15th. The highest wind velocities reported from regular Weather Bureau stations, for 5 minute periods, were as follows: Atlantic City, 24 miles from the northwest, on the 15th; Cape May, 34 miles from the northwest, on the 15th; New York, N. Y., 46 miles from the west, on the 13th; Philadelphia, Pa., 35 miles from the northwest, on the 4th.

## MISCELLANEOUS PHENOMENA.

*Thunderstorms*.—None.

*Meteor*.—Moorestown, 26th.

*Lightning*.—Dover, 26th; Haddonfield, 11th.

*Halos, solar.*—Atlantic City, 16th, 30th; Indian Mills, 14th, 16th; Oceanic, 14th, 30th.

*Halos, lunar.*—Asbury Park, Vineland, 7th; Atlantic City, Bergen Point, Cape May, 30th; Burlington, 8th; Hammonton, 13th; Indian Mills, 14th; Oceanic, 7th, 30th.

*Sleet.*—Asbury Park, Atlantic City, Bayonne, Bergen Point, Boonton, Canton, Cape May, College Farm, Dover, Flemington, Haddonfield, Jersey City, Lambertville, Moorestown, Newark, Paterson, Port Norris, Trenton, 14th; Englewood, 14–15th; Indian Mills, Little Falls, 15th; Culver's Lake, Little Falls, Newton, Paterson, Phillipsburg, 18th.

*Fog.*—The dates most numerous reported were, 9th, 10th, 11th, 22d, 23d, 24th, 25th and 26th. Fog was also reported on the 8th and 21st, from scattered stations.

#### DELAYED REPORTS.

Little Falls, October, 1908.—Total precipitation, 1.86 inches; greatest in 24 hours, 0.42 inch; number of rainy days, 11; prevailing wind direction, west.

Long Branch, October, 1908.—Mean temperature, 60.0°; highest, 85°, on the 16th and 18th; lowest, 34°, on the 31st; greatest daily range, 33°. Total precipitation, 1.30 inches; greatest in 24 hours, 0.41 inch; number of rainy days, 6; clear, 16; partly cloudy, 6; cloudy, 9; prevailing wind direction northeast.

#### CORRECTIONS.

August, 1908.—Page 59, the 7th line under the heading "Precipitation" should read, "The greatest amount, 9.23 inches, occurred at Freehold." Page 60, under the heading "Temperature Data for Lambertville, Hunterdon County, N. J.," the lowest monthly mean temperature (2d column), published 20.0°, should be 20.8°. Page 61, precipitation departure for Boonton, +6.56, should be +1.56; greatest 24-hour precipitation for Chatham, 6.95 inches, should be 1.95 inches.

October, 1908.—Page 75, the least monthly amount of precipitation, under the heading "Precipitation," should be 1.30 inches, at Long Branch. Page 77, number of partly cloudy days for Runyon should be 8; total precipitation for Hammonton, 1.72 inches, should be 1.62 inches.

#### TEMPERATURE DATA FOR OCEANIC, MONMOUTH CO., N. J.

##### MONTHLY AND ANNUAL MEAN TEMPERATURE.

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1887.	.....	37	35	47	63	68	*79	73	66	54	45	35	.....
1888.	28	33	†34	51	57	72	74	75	65	†51	49	37	52
1889.	39	29	42	53	63	71	75	74	66	52	47	*44	55
1890.	*42	*41	39	53	63	†72	74	73	67	56	46	34	55
1891.	36	39	37	†54	61	72	72	75	*74	55	46	43	*55
1892.	33	36	38	52	62	70	77	74	68	55	41	33	53
1893.	†24	32	39	51	61	*74	76	76	66	*58	40	38	53
1894.	37	32	46	53	63	73	77	74	70	57	43	37	*55
1895.	32	27	39	51	62	73	74	*77	72	53	48	40	54
1896.	31	34	36	*54	*67	71	77	77	67	55	50	34	54
1897.	32	35	43	53	64	67	73	70	66	57	46	38	54
1898.	34	34	43	47	58	69	74	74	68	56	42	33	53
1899.	30	26	38	48	60	73	73	72	†64	56	45	36	52
1900.	33	31	36	50	58	69	75	75	70	57	48	34	53
1901.	31	26	39	†48	57	69	75	74	67	55	†40	34	51
1902.	29	28	44	†50	60	68	72	70	65	57	*51	34	52
1903.	32	34	*48	50	†62	†63	73	†68	65	57	42	31	52
1904.	25	26	38	†48	61	68	†71	71	66	53	42	†29	†50
1905.	28	†25	40	50	60	67	73	71	66	57	44	35	51
1906.	37	32	35	52	61	70	72	74	70	57	45	35	53
1907.	34	26	41	†45	†55	65	74	70	67	52	44	38	51
M'ns	32.3	31.5	39.6	50.6	60.8	69.5	74.4	73.0	67.4	55.3	45.0	35.8	52.9

\* Highest on record.

† Lowest on record.

Estimated.

#### MONTHLY EXTREMES OF TEMPERATURE, 1887–1907.

	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Max .....	69	69	80	91	93	101	101	98	97	87	76	68
Min .....	-10	-11	6	23	30	44	50	51	40	29	17	4

Mean maximum temperature, 60.5°; mean minimum, 45.3°; mean daily range, 15.2°.

Highest temperature, 101°, July —, 1887, and June 20, 1893; lowest, -11°, February 10, 1899; range of temperature, 112°.

Number of years with maximum temperature 100°, or higher, 2; minimum temperature zero, or lower, 7.

Average number of days per year with maximum temperature 90°, or higher, 11; with minimum temperature 32°, or lower, 94; with minimum temperature zero, or lower, 1.

Lowest annual maximum temperature, 91°, 1906; highest annual minimum, 13°, 1891.

Highest annual mean, 55.4°, 1891 and 1894; lowest, 49.7°, 1904; range of annual mean temperature, 5.7°.

Highest monthly mean, 79.0°, July, 1887; lowest, 24.0°, January, 1893; range of monthly mean temperature, 55.0°.

Average annual range of temperature, 93°; greatest annual range, 107°, 1899; least, 82°, 1891.

Greatest monthly range, 66°, March, 1905 and April, 1896; least, 27°, July, 1897.

Average temperature for spring, 50°; summer, 72°; autumn, 56°; winter, 33°.

Mean temperature for the warmest spring, 1894, 54°; warmest summer, 1893, 75°; warmest autumn, 1891 and 1900, 58°; mildest winter, 1889–90, 42°.

Mean temperature for the coldest spring, 1888 and 1907, 47°; coolest summer, 1903, 68°; coolest autumn, 1904, 54°; coldest winter, 1903–4 and 1904–5, 27°.

Average date of last killing frost in spring, April 11; of first killing frost in autumn, October 26; average length of the growing season, 197 days.

Earliest date on which first killing frost occurred in autumn, October 11 (1895); latest date of killing frost in spring, April 22 (1907).

#### COMPARATIVE STATE DATA FOR OCTOBER.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1885.....	44.3	76	18	4.63
1886.....	43.6	73	17	4.20
1887.....	41.5	72	13	1.94
1888.....	45.8	77	8	3.97
1889.....	45.7	69	13	8.48
1890.....	43.8	74	11	0.82
1891.....	42.2	70	6	2.39
1892.....	41.9	71	12	7.29
1893.....	41.8	70	11	3.48
1894.....	40.3	76	11	3.34
1895.....	45.7	80	12	3.17
1896.....	48.2	78	12	3.05
1897.....	43.8	74	10	4.59
1898.....	42.4	70	11	6.76
1899.....	44.0	71	17	2.29
1900.....	47.5	79	15	3.43
1901.....	38.5	69	10	2.38
1902.....	49.3	80	20	2.20
1903.....	39.9	79	3	1.26
1904.....	40.2	69	6	2.18
1905.....	42.1	70	6	1.84
1906.....	43.6	70	8	1.61
1907.....	43.5	68	13	5.65
1908.....	....	..	..	....



## CLIMATOLOGICAL DATA FOR NOVEMBER, 1908.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.					Sky.				Prevailing direction of wind.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Treatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.			
THE HIGHLANDS AND KITTATINNY VALLEY.																					
Layton	Sussex	550	9	38.8	0.8	63	3	2	16	41	1.17	-1.11	0.65	7.5	4	14	9	7	w.	Warren C. Hursh.	
Sussex (b)	do	442	14	41.0	0.0	61	3	10	16	31	0.55	-2.32	0.50	5.5	3	14	6	10	nw.	Prof. W. H. Seeley.	
Culver's Lake	do	848	7	40.4	0.0	61	3	15	16	37	0.75	-1.66	0.50	3.8	5	13	7	10	nw.	B. E. Riker.	
Newton	do	678	28	40.4	0.9	61	3	9	16	32	0.76	-2.22	0.59	6.0	4	13	7	10	nw.	B. H. Kienbaum.	
Charlotteburg	Passaic	719	16	40.4	0.3	59	3	15	16	37	0.67	-2.82	0.45	3.0	4	13	6	11	w.	G. S. Briggs.	
Pompton Plains	Morris	195	6	40.4	0.0	61	3	9	16	32	0.88	-2.22	0.62	4.0	5	13	7	10	nw.	M. S. Taylor.	
Boonton	do	413	11	40.4	0.3	59	3	15	16	37	1.26	-2.82	0.67	3.5	5	13	6	11	nw.	F. G. McIntosh.	
Dover	do	575	24	39.5	-0.7	60	27	12	16	29	1.02	-2.76	0.73	5.0	4	6	14	10	.....	William C. Harris.	
Belvidere	Warren	289	18	41.0	0.3	62	3	5	16	36	0.82	-2.58	0.68	7.0	3	15	6	9	.....	Samuel J. Hixson.	
Phillipsburg	do	196	6	41.0	-0.6	60	* 9	9	16	33	0.96	-2.37	0.78	7.7	4	17	2	11	w.	D. W. Smith.	
THE RED SAND-STONE PLAIN.																					
Mahwah	Bergen	70	17	39.8	-1.2	62	* 3	10	16	38	0.62	-3.32	0.58	3.0	3	10	10	10	w.	M. F. Brooks.	
River Vale (c)	do	110	32	43.4	0.2	64	3	21	16	35	0.40	3.32	0.30	3.0	4	10	10	10	nw.	G. S. M. Holdrum.	
Paterson	Passaic	135	18	40.4	-1.9	63	4	20	16	33	0.77	-2.60	0.68	2.0	3	9	13	8	nw.	H. A. Probert.	
Englewood	Bergen	175	6	40.4	-1.9	63	4	20	16	33	0.89	-2.74	0.73	2.0	3	15	5	10	nw.	William C. Tucker.	
Little Falls	Passaic	200	39	42.4	0.9	64	26	21	16	28	0.87	-2.74	0.78	3.4	3	12	10	8	w.	F. Fearnis.	
South Orange	Essex	234	6	42.4	0.9	64	26	21	16	28	0.94	-2.53	0.77	1.2	4	12	10	8	w.	W. J. Chandler, M. D.	
Chatham	Morris	140	66	43.6	0.4	66	26	22	16	28	1.17	-2.69	0.80	3.5	5	13	7	10	nw.	M. A. Butler.	
Newark	Essex	314	38	44.7	0.7	62	26	27	5	31	0.35	-3.25	0.30	1.0	3	13	7	10	s.w.	Wm. Wiener.	
New York, N. Y.	New York	15	3	44.4	0.0	61	* 3	25	16	29	0.93	-2.69	0.66	0.6	3	13	6	11	w.	U. S. Weather Bureau.	
Jersey City	Hudson	50	18	43.1	-0.6	60	* 4	23	16	26	0.97	-2.36	0.76	1.5	6	10	10	10	w.	Samuel K. Pearson, jr.	
Bayonne	do	37	11	43.8	0.2	62	4	22	16	29	0.85	-2.53	0.74	1.4	3	9	13	8	nw.	John H. Eadie.	
Bergen Point	do	33	29	43.1	-0.3	65	26	21	16	26	1.00	-2.52	0.78	1.0	5	13	7	10	sw.	Dr. W. H. Mitchell.	
Elizabeth	Union	100	18	42.4	0.4	65	26	15	16	32	1.09	-2.45	0.91	3.2	6	13	10	7	sw.	W. M. Oliver.	
Plainfield	do	76	29	41.1	-1.3	62	26	9	16	32	1.12	-2.06	0.84	4.0	5	15	3	12	w.	John Neagle.	
Somerville	Somerset	187	11	41.8	-0.7	61	3	7	16	37	0.86	-2.04	0.54	5.0	8	15	5	10	w.	Peter Hardcastle.	
Flemington	Hunterdon	61	55	42.7	0.9	65	26	13	16	33	0.53	-3.14	0.30	2.0	5	15	6	9	w.	H. E. Deats.	
New Brunswick	Middlesex	100	13	42.7	0.9	65	26	9	16	37	1.16	-2.17	0.81	2.5	6	13	6	11	nw.	Wm. T. Woerner.	
College Farm	do	18	1	42.7	0.9	65	26	9	16	37	1.01	-2.17	0.81	2.5	6	13	6	11	nw.	Geo. B. Thrasher.	
Runyon	do	18	1	42.7	0.9	65	26	9	16	37	1.01	-2.17	0.81	2.5	6	13	6	11	nw.	J. H. Cottrell.	
Lambertville	Hunterdon	95	22	42.6	-0.2	62	* 9	11	16	34	1.11	-2.27	1.01	6.0	3	15	6	9	nw.	William R. Bowne.	
THE SOUTHERN INTERIOR.																					
Hightstown	Mercer	85	17	43.8	0.2	71	26	17	16	35	1.04	-2.80	0.92	2.0	2	16	7	7	w.	Ernst Wenger.	
Freehold	Monmouth	187	25	43.8	0.2	71	26	17	16	35	1.04	-2.80	0.92	2.0	2	16	7	7	w.	F. T. Cooper.	
Trenton	Mercer	60	39	45.2	-1.2	68	26	18	16	32	0.80	-3.07	0.80	T.	2	11	13	6	nw.	E. R. Cook.	
Inglisstown	Monmouth	106	22	43.7	-0.5	72	26	20	16	37	1.21	-2.37	0.99	1.1	3	14	8	8	nw.	F. C. Price, M. D.	
Burlington	Burlington	12	16	43.7	-0.5	72	26	20	16	37	1.11	-2.29	0.94	2.0	5	14	8	8	nw.	D. S. B. McCoy.	
Rancocas	do	68	23	43.7	-0.9	69	26	19	16	34	1.04	-2.44	0.91	1.5	3	14	10	6	w.	Spencer Haines.	
Moorestown	do	71	44	43.7	-0.9	69	26	19	16	34	1.04	-2.44	0.91	1.5	3	14	10	6	w.	John C. Beans.	
Philadelphia, Pa.	Philadelphia	117	38	40.3	+1.4	66	26	28	5	30	0.67	-2.39	0.54	2.3	3	13	9	8	nw.	U. S. Weather Bureau.	
Haddonfield	Camden	75	8	40.0	0.0	67	26	19	16	34	1.26	-2.37	0.99	1.03	1.5	5	14	8	8	w.	F. G. Bunnell.
Indian Mills	Burlington	76	8	45.2	-1.7	72	* 24	18	16	40	1.29	-1.46	1.07	T.	5	15	8	7	nw.	James Armstrong.	
Clayton	Gloucester	126	12	45.2	-1.7	72	* 24	18	16	40	1.29	-1.46	1.07	T.	5	15	8	7	nw.	Wm. T. Farley.	
Hammononton	Atlantic	80	11	44.2	0.2	67	24	19	16	36	0.99	-3.00	0.86	T.	5	15	10	5	w.	Orville Bassett.	
Tuckerton	Ocean	23	11	44.2	0.2	67	24	19	16	36	1.09	-1.78	1.03	0	3	15	10	5	w.	F. R. Austin.	
Egg Harbor City	Atlantic	63	19	45.0	0.7	70	30	22	16	32	1.03	-2.83	0.95	0	4	13	11	6	w.	Charles Saalman.	
Friesburg	Salem	100	16	45.0	0.7	70	30	22	16	32	1.18	-1.86	1.00	T.	6	14	10	6	w.	H. C. Perry.	
Vineland	Cumberland	118	41	45.0	1.1	70	* 10	22	16	36	0.91	-2.47	0.82	0	3	16	10	4	nw.	Alfred Chalmers.	
Camton	Salem	24	7	45.0	1.1	70	* 10	22	16	36	1.12	-1.37	0.96	T.	4	13	11	6	w.	J. H. Maskell.	
Bridgeton	Cumberland	30	33	46.2	0.3	70	* 24	22	16	36	1.02	-2.02	0.97	0	2	14	12	4	w.	Henry A. Jorden.	
Pleasantville	Atlantic	26	11	46.2	0.3	70	* 24	22	16	36	1.03	-2.03	0.90	0	4	14	13	3	.....	L. Van Gilder.	
Northfield	do	8	1	46.2	0.3	70	* 24	22	16	36	1.07	-2.03	0.90	0	4	14	13	3	.....	Wm. L. Fieck.	
Port Norris	Cumberland	43	17	46.5	-0.1	65	* 4	24	16	30	0.93	-2.03	0.88	0	4	14	13	3	.....	J. H. Barraclough.	
Woodbine	Cape May	19	21	46.5	-0.1	65	* 4	24	16	30	1.04	-1.54	0.77	0	4	14	10	6	nw.	R. D. Maltby.	
Cape May C. H.	do	19	21	46.5	-0.1	65	* 4	24	16	30	1.04	-1.54	0.77	0	4	14	10	6	nw.	L. T. Garretson.	
THE SEA COAST.																					
Oceanic	Monmouth	16	22	44.2	-0.8	63	* 4	22	16	27	1.14	-2.44	0.76	T.	6	15	7	8	nw.	Prof. C. E. Dietz.	
Long Branch	do	30	20	44.2	-0.8	63	* 4	22	16	27	1.14	-2.44	0.76	T.	6	15	7	8	nw.	B. B. Bobbitt.	
Asbury Park	do	22	20	44.2	-0.4	64	4	23	5	27	1.03	-1.98	0.76	T.	6	16	6	8	w.	B. H. Obert.	
Atlantic City	Atlantic	16	35	46.0	-0.5	65	4	25	5	34	0.91	-2.32	0.78	0	6	15	11	4	nw.	Section Center.	
Cape May City	Cape May	17	24	47.6	0.2	64	4	30	5	30	1.24	-1.98	0.92	0	6	17	10	3	nw.	U. S. Weather Bureau.	

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observations.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.





# Total Monthly Precipitation, November, 1908.



## DAILY PRECIPITATION FOR NOVEMBER, 1908.

Stations.	Day of month.																															Total.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
THE HIGHLANDS AND KITTA-TINNY VALLEY.																																	
Layton						T.									.05	.60			.50								.02						1.17
Sussex						T.					T.				*	.50			.05														0.51
Culver's Lake				T.	T.	T.		T.			.01				.01	.55			.17								.01						0.71
Newton											T.				*	.59			.16								.01						0.70
Charlotteburg															*	.45			.14								.08						0.62
Pompton Plains									T.		.03				*	.62			.14								.09						0.60
Boonton											.35				*	.67			.16							T.	.08						1.27
Dover															.73	*	.68		.19							.05	.05						1.00
Belvidere						T.									*	.76	.02		.14														0.80
Phillipsburg				T.	T.	T.					T.				.76	.02		.15									.03						0.90
THE RED SAND STONE PLAIN.																																	
Mahwah						T.									*	.58			.04														0.62
River Vale															*	.30			.05								.05						0.45
Paterson					T.						T.				.03	.65			.09							T.	.05						0.77
Englewood				T.	T.	T.									.54	.19			.16								T.						0.80
Little Falls								T.							*	.78			.09														0.85
South Orange					T.	T.									*	.77		T.	.12							T.	T.	.05					0.94
Chatham											.05				*	.80			.24									.08					1.17
Newark											T.				.30			.03									T.	.02					0.35
New York, N. Y.				T.	T.	T.		T.			T.				.51	.15		.09		T.					T.	T.	T.	.01					0.75
Jersey City				T.	T.	T.		T.							.15	.64		.10								T.	.04						0.93
Bayonne				T.	T.	T.		T.			T.				.18	.58		T.	.12		T.						.01	.07					0.97
Bergen Point															.20	.54		.11															0.85
Elizabeth											T.				*	.78		.16								*	.06						1.00
Plainfield					T.	T.		.01			.02				.40	.51		T.	.10								.05				T.		1.09
Somerville											.05				*	.84		.18									.05						1.12
Flemington						T.		.02			.02				.04	.50		.18		T.					.02	.03	.05	T.					0.86
New Brunswick											.03				*	.30		.05									.15						0.53
College Farm				T.		T.					.03	.02			.10	.71		.11								T.	.19	T.					1.10
Runyon				T.		T.					T.				.72	.22		.07									T.						1.01
Lambertville						T.									.10	.91		.10															1.11
THE SOUTHERN INTERIOR.																																	
Hightstown					T.						T.				.92				.12														1.04
Freehold															*	.80			T.														0.80
Trenton					T.	T.					T.				.15	.99		.07															1.21
Imlaystown						T.									.08	.94		.03	.04	T.		T.		T.		.02	T.	T.					1.11
Burlington								T.										.03	.04	T.		T.		T.		.02	T.	T.					1.04
Rancocas															.07	.91		.06															1.04
Moorestown						T.		T.			.07				.54	T.		.07									T.						0.67
Philadelphia, Pa				T.	T.	T.		T.			.06				.54	T.		.07									.03	T.	T.				1.26
Haddonfield											.09				1.00	.03		.11															1.29
Indian Mills											T.	.08			.17	.90		.10									.04						1.29
Clayton															*	.06		.86		.07													0.99
Hammonton											*	.06			*	.86		.07															1.00
Tuckerton															.33	.70		.06															1.03
Egg Harbor City											*	.08			T.	.95		T.															1.18
Friesburg											.03	.04			T.	1.00		.06									.05						0.91
Vineland											T.	.04			.36	.46		.09															1.12
Canton											.05				.96		.06											.05					1.02
Bridgeton											.05				.97		.04		T.														1.03
Pleasantville											.09				.50	.40		.04															1.07
Northfield											*	.10			.48	.40		.03									.06						0.93
Port Norris				T.							T.	.11			.08	.72		.02															1.04
Woodbine																																	1.04
Cape May C. H.												.19			.16	.61											.08						1.14
THE SEA COAST.																																	
Oceanic						T.					.05				.15	.61		T.	.22							.05	.06						1.14
Long Branch											T.				*	.78		.13															0.91
Asbury Park				T.	T.						.01	.04			.06	.70	T.	.14		T.							.08						1.03
Atlantic City											.09	.01			.76	.02		.02									.01						0.91
Cape May City				.01							.25	.04			.92			.01									.01				T.		1.24

|| Precipitation measured in the morning.

\*Precipitation included in that of the following day.

T. indicates amount too small to measure.



U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR DECEMBER, 1908.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

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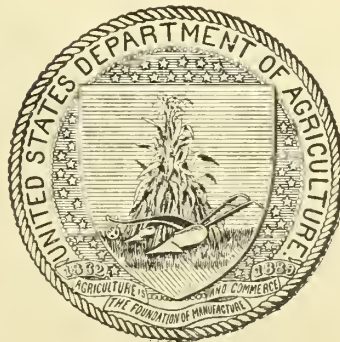
UNDER DIRECTION OF  
WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

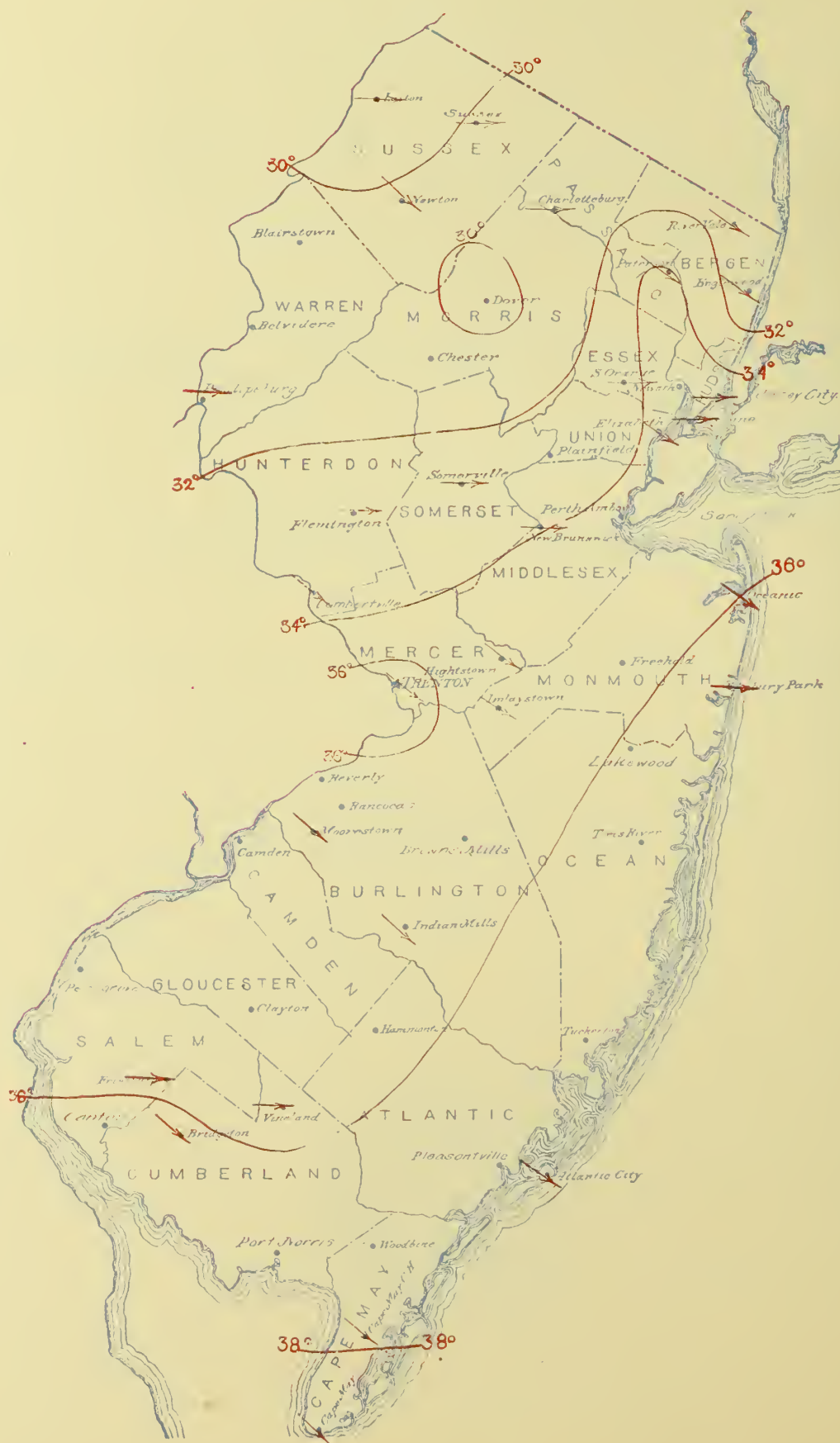
LEVI A. JUDKINS

SECTION DIRECTOR



ALBANY, N. Y.  
WEATHER BUREAU OFFICE  
JANUARY 22, 1909

**Monthly Mean Isotherms and Prevailing Winds, December, 1908.**





U. S. DEPARTMENT OF AGRICULTURE,  
**CLIMATOLOGICAL SERVICE**  
 OF THE  
**WEATHER BUREAU.**

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,  
 LEVI A. JUDKINS, Section Director.

VOL. XXI. ATLANTIC CITY, N. J., DECEMBER, 1908. No. 12.

**GENERAL SUMMARY.**

Temperature and precipitation averaged nearly normal for the State as a whole, during December, 1908, the mean temperature being a fraction of a degree above the normal, and the total precipitation about one-fourth of an inch below. During the past 22 years the mean temperature for December has ranged from 27.0°, in 1904, to 41.5°, in 1889, and the average precipitation from 1.43 inches, in 1896, to 7.30 inches, in 1901. The month was generally free from severe weather, only one well-defined cold wave and one damaging storm occurring. The sunshine, averaging a trifle less than 50 per cent of the possible, was somewhat deficient. There were about ten days with little or no sunshine, and about seven days with the possible amount.

The local departures of mean temperature from the normal were not specially marked, except in the southern portion of Ocean County, where an excess of about 2.5° per day occurred. The greatest deficiency, about 1.5° per day, was reported from Bergen County. The highest temperatures of the month, ranging from 61° to 72°, occurred thruout the State on the 1st, the previous records of maximum temperature for the month being equaled at numerous stations, and exceeded at several. This unusually mild December day was succeeded by much colder weather on the 2d and 3d, the minimum temperatures on the 3d being generally below 25°. Abrupt, tho less pronounced, temperature changes also occurred near the close of the first decade, a considerable rise in the temperature on the 7th being followed by a corresponding fall on the 8th. During the remainder of the month the temperature fluctuations were not, as a rule, sudden or decided. The lowest temperatures were recorded at most stations on the 24th, readings close to zero being reported in the northern, western, and southwestern interior.

The monthly precipitation was quite uniformly distributed, the greatest amounts, 4 to slightly more than 5 inches, occurring over the Delaware Bay and the coast counties, and the least, 2 to 3 inches, over the extreme northern counties. As compared with the normal, there was a marked deficiency in the precipitation over the Highlands and Kittatinny Valley region, as well as small areas of the Red Sand Stone Plain

division, and a moderate excess over parts of Atlantic and Cape May counties, in the south, the departures from the normal elsewhere being unimportant. The heaviest rains occurred on the 6-7th, after which dates the precipitation in the interior was mostly in the form of snow. The northern and western counties received a considerable quantity of snow on the 17-18th, and the eastern and southern counties from 5 to 15 inches on the 22-23d, the latter-mentioned storm being violent and damaging along the coast. At the end of the month the ground was generally bare of snow, except in the extreme northern counties, where there was a slight covering.

**TEMPERATURE.**

The monthly mean, 34.0°, was 0.8° above the normal. The mean maximum was 41.9°, the mean minimum 26.2°, and the mean daily range 15.7°.

The means for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley, 30.4°, +0.5°; Red Sand Stone Plain, 33.9°, +0.9°; Southern Interior, 35.5°, +0.8°; Sea Coast, 37.3°, +0.9°.

The highest monthly mean was 38.8°, at Cape May, and the lowest, 28.6°, at Layton, the range of monthly mean temperature being 10.2°.

The highest temperature, 72°, occurred at Indian Mills, on the 1st, and the lowest, 1°, at Vineland, on the 24th, the range within the State being 71°.

The greatest local monthly range, 67°, occurred at Vineland, and the least, 43°, at Cape May.

The greatest daily range, 38°, occurred at Charlotteburg, on the 2d.

**PRECIPITATION.**

The average, 3.63 inches, was 0.22 inch below the normal, the averages for the various districts, with the departures from the normal, being as follows: The Highlands and Kittatinny Valley, 2.69 inches, -1.21 inches; Red Sand Stone Plain, 3.35 inches, -0.48 inch; Southern Interior, 4.26 inches, +0.37 inch; Sea Coast, 4.44 inches, +0.64 inch.

The greatest monthly amount, 5.26 inches, occurred at Atlantic City, and the least, 2.10 inches, at Sussex.

The greatest 24-hour amount, 2.42 inches, occurred at Bergen Point, on the 6-7th.

No excessive precipitation occurred.

The average snowfall, unmelted, was 7.8 inches, the averages for the various districts being as follows: The Highlands and Kittatinny Valley, 8.1 inches; Red Sand Stone Plain, 6.5 inches; Southern Interior, 9.0 inches; Sea Coast, 7.3 inches. The greatest monthly amount was 15.0 inches, at Layton and Hammonton, and the greatest 24-hour amount 15.0 inches, at Hammonton, on the 22-23d.

Measurable precipitation occurred on an average of 11 days.

**SUNSHINE AND CLOUDINESS.**

The average number of clear days was 10; partly cloudy, 8; cloudy, 13. The following percentages of the possible amount of sunshine were reported: Atlantic City, 46; Hightstown, 48; Jersey City, 47.

## WIND.

Northwest winds prevailed. Brisk to high winds were reported on the 2d, 7th, 18th, 22d, 23d, and 26th. The highest velocities reported from regular Weather Bureau stations, for 5-minute periods, were as follows: Atlantic City, 38 miles, from the northeast, on the 23d; Cape May, 36 miles, from the north, on the 23d; New York, N. Y., 50 miles, from the northwest, on the 18th; Philadelphia, Pa., 35 miles, from the northwest, on the 23d.

## MISCELLANEOUS PHENOMENA.

*Thunderstorms.*—None reported.

*Halos, solar.*—Atlantic City, 4th; Burlington, Indian Mills, 21st; Oceanic, 4th, 24th.

*Halos, lunar.*—Bayonne, 3d, 10th, 31st; Bergen Point, 5th; Burlington, Jersey City, 4th; Indian Mills, 3d; Moorestown, 3d, 4th, 10th; Newark, Trenton, 10th; Oceanic, 4th, 10th; Plainfield, 3d, 4th, 9th; Somerville, 10th, 28th.

*Sleet.*—Asbury Park, Burlington, Cape May, 17th; Bayonne, Englewood, 4th; Bergen Point, Jersey City, Lambertville, 4th, 18th; Cape May Court House, 13th; Clayton, Culver's Lake, Indian Mills, Paterson, Somerville, 18th; Moorestown, 6th; Dover, 4th, 13th; Newton, 7th; Phillipsburg, 4th, 6th, 17th.

*Fog.*—Atlantic City, 18th, 31st; Bayonne, 12th, 18th, 30th, 31st; Bergen Point, 24th, 30th, 31st; Burlington, 18th, 21st, 31st; Cape May, 18th, 25th, 30th, 31st; Haddonfield, 21st, 31st; Hightstown, 31st; Jersey City, 30th, 31st; Moorestown, Oceanic, 18th; Paterson, 7th; Phillipsburg, 7th, 11th, 31st; Plainfield, Tuckerton, Vineland, 30th; Somerville, 10-12th, 15th, 18th, 19th, 29th, 31st; Trenton, 24th, 31st.

## DELAYED REPORTS.

October, 1908.—Woodbine: Mean temperature and departure, highest temperature and date, blank; lowest temperature, 31°, 14th; greatest daily range, 36°. Total precipitation, 2.17 inches; departure from the normal, -1.57 inches; greatest in 24 hours, 1.04 inches. Number of rainy days, 5; clear, 16; partly cloudy, 7; cloudy, 8.

November, 1908.—Woodbine: Mean temperature and departure, blank; highest temperature, 69°, 30th; lowest, 21°, 16th; greatest daily range, 35°. Total precipitation, 0.96 inch; departure from the normal, -1.94 inches; greatest in 24 hours, 0.86 inch; snowfall, 0. Number of rainy days, 3; clear, 15; partly cloudy, 8; cloudy, 7.

November, 1908.—Clayton: Mean temperature, 44.8°; departure from the normal, +0.9°; highest, 69°, 30th; lowest, 21°, 16th; greatest daily range, 33°. Total precipitation, 1.20 inches; departure from the normal, -2.05 inches; greatest in 24 hours, 1.03 inches; total snowfall, T. Number of rainy days, 4; clear, 13; partly cloudy, 10; cloudy, 7. Prevailing wind, northwest.

November, 1908.—Rancocas: Total precipitation, 1.05 inches; departure from the normal, -2.55 inches; greatest in 24 hours, 1.00 inch; total snowfall, 1.2 inches. Number of rainy days, 4; clear, 16; partly cloudy, 6; cloudy, 8. Prevailing wind, northwest.

## PRECIPITATION DATA FOR OCEANIC, MONMOUTH CO., N. J.

## MONTHLY AND ANNUAL PRECIPITATION.

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Anl.
1887	.....	.....	4.64	3.35	0.85	7.67	6.95	5.15	3.75	3.90	2.54	5.43	.....
1888	5.34	3.09	4.39	3.68	5.43	3.95	5.16	4.38	10.65*	4.05	4.98	3.15	58.25
1889	8.76*	2.95	5.70	5.75	4.09	5.99	8.90	9.06*	8.76	4.23	8.79*	2.09	75.14
1890	2.42	4.52	5.87	2.94	4.27	3.76	7.25	6.77	7.59	10.18*	0.92	5.74	62.23
1891	5.85	5.36	4.92	0.63†	5.39	1.45	5.89	4.61	5.91	5.03	2.35	3.65	51.04
1892	5.11	2.32	5.09	3.03	3.36	4.48	4.00	4.51	1.28	0.50†	8.60	1.94	44.37
1893	3.77	5.09	3.91	6.08	5.30	2.89	4.63	6.47	3.10	4.20	3.65	3.38	52.87
1894	2.24	4.67	2.21†	3.01	5.67	4.40	2.16†	2.02	8.59	7.18	3.83	6.04	52.92
1895	4.99	1.23	3.96	5.09	2.60	2.86	4.61	3.10	2.23	3.52	3.25	2.24	39.68
1896	1.33†	7.64*	5.15	2.03	2.48	4.41	6.31	1.44†	4.71	5.03	3.32	1.87†	42.26
1897	3.14	2.81	3.79	4.50	4.39	2.76	12.88*	3.74	0.89†	2.03	3.48	5.41	49.66
1898	5.04	5.44	3.79	3.16	9.26*	1.87	6.70	6.66	1.26	6.83	7.43	3.28	60.82
1899	4.18	5.14	7.22*	1.70	2.04	3.18	5.83	2.10	1.73	3.48	1.88	2.23	43.83
1900	5.50	5.34	3.39	1.84	4.86	2.94	6.02	4.15	4.60	4.09	4.02	2.99	47.84
1901	2.85	1.05†	5.93	6.48*	6.77	1.09†	8.27	4.88	3.28	1.94	2.43	7.26	51.23
1902	2.79	6.42	5.01	2.39	1.24	6.58	3.79	4.77	4.66	6.50	2.74	7.55*	54.44
1903	4.24	4.13	5.19	2.59	0.35†	10.00*	5.13	7.87	1.70	7.06	0.76†	4.26	53.28
1904	2.87	2.27	2.84	4.30	2.69	2.61	5.12	8.72	3.94	2.60	1.90	3.52	43.38
1905	3.52	2.95	4.03	3.26	1.26	3.06	5.53	5.24	3.37	2.31	1.23	3.41	139.17
1906	2.78	1.95	4.92	3.11	2.96	4.96	5.46	5.01	1.84	4.90	1.10	3.99	42.98
1907	3.45	2.58	3.32	4.96	5.80	3.81	3.08	3.21	8.48	2.92	5.05	4.80	51.46
M'ns	3.98	3.89	4.43	3.57	3.86	4.03	5.93	4.96	4.41	4.24	3.58	4.02	50.90

\*Greatest on record.

†Least on record.

April, 1901 and 1904 estimated from surrounding stations.

Greatest annual amount, 75.14 inches, 1889; least, 39.17 inches, 1905.

Greatest monthly amount, 12.88 inches, July, 1897; least, 0.35 inch, May, 1903.

Greatest amount in 24 hours, 5.78 inches, August 13-14, 1889.

Excessive precipitation (2.50 inches, or more, in 24 consecutive hours, or less): 2.52 inches, July 26, 1887; 3.52 inches, October 21, 1887; 3.78 inches, July 19, 1888; 4.50 inches, September 9, 1888; 2.79 inches, April 25-26, 1889; 2.70 inches, July 27, 1889; 5.78 inches, August 13-14, 1889; 3.21 inches, November 27-28, 1889; 3.14 inches, July 28, 1890; 2.53 inches, October 16, 1890; 2.61 inches, July 29-30, 1891; 2.55 inches, September 6, 1891; 2.85 inches, October 15, 1892; 3.24 inches, May 3, 1893; 3.31 inches, August 23-24, 1893; 4.23 inches, September 8-9, 1894; 3.16 inches, December 26-27, 1894; 2.70 inches, February 6-7, 1896; 2.51 inches, February 29, 1896; 2.91 inches, July 5-6, 1896; 3.18 inches, July 14, 1897; 2.78 inches, July 20, 1897; 3.18 inches, December 14, 1897; 3.90 inches, February 20, 1898; 2.60 inches, May 17-18, 1900; 3.00 inches, February 21, 1902; 2.82 inches, June 12, 1903; 3.22 inches, July 18-19, 1903; 5.56 inches, October 9, 1903; 3.27 inches, September 15, 1904; 2.65 inches, September 23, 1907; 3.08 inches, September 28-29, 1907; 2.60 inches, July 22, 1908; 2.84 inches, August 26, 1908.

Average number of days with measurable precipitation: January, 9; February, 8; March, 11; April, 9; May, 10; June, 8; July, 11; August, 10; September, 9; October, 7; November, 8; December, 10; annual, 110.

Average precipitation for spring, 11.66 inches; summer, 14.92 inches; autumn, 12.23 inches; winter, 11.89 inches.

Total precipitation for the wettest spring, 1898, 16.21 inches; summer, 1889, 23.95 inches; autumn, 1889, 21.83 inches; winter, 1890-1, 16.95 inches.

Total precipitation for the driest spring, 1903, 8.13 inches; summer, 1894, 8.58 inches; autumn, 1905, 6.91 inches; winter, 1900-01, 6.89 inches.

Longest period without measurable precipitation, October 16-November 4, 1901, 20 days.

*Snowfall* (1893 to date).—Average monthly amounts: January, 9.0 inches; February, 10.1 inches; March, 4.0 inches; April, 1.0 inch; November, 1.7 inches; December, 5.4 inches; annual, 31.2 inches.

Greatest annual amount, 49.2 inches, 1907; least, 10.0 inches, 1901; greatest winter amount, 41.5 inches, 1896-7; least, 9.7 inches, 1895-6 and 1899-1900; greatest monthly amount, 26.0 inches, February, 1894.



## CLIMATOLOGICAL DATA FOR DECEMBER, 1908.

Stations.	Counties.	Elevation, feet	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky					Prevailing direction of wind.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.		
THE HIGHLANDS AND KITTATINNY VALLEY.																				
Layton	Sussex	550	9	28.6	-0.2	64	1	2	24	31	2.27	-2.50	0.70	15.0	9	10	6	15	W.	Warren C. Hursh.
Sussex	do	442	14	30.7	1.0	65	1	6	24	32	2.10	1.58	1.00	7.5	9	12	5	14	W.	Prof. W. H. Seeley.
Culver's Lake	do	848	7								2.78	-1.29	1.05	10.0	12	13	6	12	W.	B. E. Riker.
Newton	do	678	28	30.6	+1.2	64	1	8	24	32	2.61	-1.18	1.06	9.5	10	13	4	14	nw.	B. H. Klenbaum.
Charlotteburg	Passaic	719	10	30.8	0.7	63	1	3	24	38	3.02	-1.60	1.42	6.0	9	10	7	14	W.	G. S. Briggs.
Pompton Plains	Morris	105	0								2.83		1.49	5.5	10				nw.	M. S. Taylor.
Boonton	do	413	11								2.92	-0.63	1.56	4.9	12				nw.	F. G. McIntosh.
Dover, (a)	do	575	24	29.4	-0.9	62	1	9	24	29	3.15	0.96	1.60	8.5	9	9	7	15	.....	William C. Harris.
Belvidere, (b)	Warren	289	18	32.0	1.4	65	1	10	6	32	2.64	-1.43	1.18	7.0	12	10	5	16	.....	Samuel J. Hixson.
Phillipsburg	do	106	6	31.0	-0.3	63	1	12	24	24	2.62	-1.12	1.18	7.5	13	10	10	11	W.	D. W. Smith.
THE RED SAND-STONE PLAIN.																				
Mahwah	Bergen		6								2.86		1.49	6.5	8				nw.	M. F. Brooks.
River Vale	do	70	17			65	1				2.60	-1.48	1.35	7.0	9	10	9	12	nw.	G. S. M. Holdrum.
Paterson	Passaic	110	32	34.1	-1.3	68	1	17	* 6	30	3.12	-1.26	1.70	4.0	11	5	18	8	nw.	H. A. Probert.
Englewood, (†)	Bergen	135	18	30.8	1.0	61	1	12	24	31	3.59	-0.73	2.05	6.0	10	10	6	15	nw.	William C. Tucker.
Little Falls	Passaic	175	6								2.79		1.40	4.2	12				W.	F. Ferns.
South Orange	Essex	200	39	33.0	0.9	65	1	14	24	23	3.24	-0.63	1.67	5.0	10	12	8	11	W.	W. J. Chandler, M. D.
Chatham	Morris	234	6								3.41		1.90	6.0	12				W.	M. A. Butler.
Newark, (a)	Essex	140	66	34.7	1.4	65	1	14	24	30	3.15	-0.60	1.90	4.2	11	5	11	15	W.	Wm. Wiener.
New York, N. Y.	New York	314	38	35.2	-0.8	64	1	20	10	24	3.21	-0.24	1.91	5.1	10	7	9	15	W.	U. S. Weather Bureau.
Jersey City	Hudson	15	3	35.4		67	1	20	*10	29	3.43		1.93	5.5	11	8	10	13	W.	Samuel K. Pearson, jr.
Bayonne	do	50	18	34.4	0.6	64	1	16	24	26	4.10	+0.55	2.32	7.0	12	9	7	15	W.	John H. Eadie.
Bergen Point	do	37	11	34.3	1.5	65	1	15	24	30	3.91	-0.46	2.42	5.7	11	10	8	13	nw.	Dr. W. H. Mitchell.
Elizabeth	Union	33	29	34.4	0.9	64	1	17	24	36	3.61	-0.19	1.95	7.0	10	10	7	14	nw.	W. M. Oliver.
Plainfield	do	100	18	32.8	0.4	66	1	7	24	27	3.71	-0.12	1.85	8.4	12	12	9	10	W.	John Neagle.
Somerville	Somerset	76	29	33.0	0.6	66	1	8	24	28	3.57	-0.19	2.00	7.4	12	9	6	16	W.	Peter Hardcastle.
Flemington, (a)	Hunterdon	187	11	32.6	1.1	67	1	3	24	28	2.87	-1.12	1.64	7.0	11	14	5	12	W.	H. E. Deats.
New Brunswick, (d)	Middlesex	61	55	34.0	-0.8	65	1			26	3.32	-0.40	2.10	9.0	11	10	10	11	W.	Wm. T. Woerner.
College Farm	do	100	13			65	1				3.40	-0.23	2.18		11	10	7	14	W.	Geo. B. Thrasher.
Rumyon	do	18	1								3.47		2.07	7.5	10	8	9	14	W.	J. H. Cottrell.
Lambertville	Hunterdon	95	22	33.7	0.2	66	1	8	24	31	3.70	-0.15	1.67	9.0	12	10	10	11	nw.	William R. Bowne.
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	17	34.3	1.1	68	1	6	24	31	3.75	+0.15	2.12	7.0	9	11	7	13	nw.	Ernst Wenger.
Freehold	Monmouth	187	25								3.91	+0.37	1.87	5.0	10	10	7	14	nw.	F. T. Cooper.
Trenton	Mercer	60	39	37.0	0.4	66	1	17	24	25	3.53	-0.01	1.80	4.0	9	8	13	10	nw.	E. R. Cook.
Imlaystown	Monmouth	106	22	33.8		68	1	5	24	29	3.03	-0.53	1.60	5.5	10	9	12	10	nw.	F. C. Price, M. D.
Burlington	Burlington	12	16								3.93	-0.12	1.87	10.1	11				nw.	D. S. B. McCoy.
Rancocas	do	68	23																nw.	Spencer Haines.
Moorestown	do	71	44	34.7	1.5	67	1	10	24	32	3.56	+0.01	1.84	7.4	11	12	6	13	nw.	John C. Beams.
Philadelphia, Pa.	Philadelphia	117	38	37.1	1.4	68	1	23	6	23	3.12	+0.08	1.53	6.0	10	10	9	12	nw.	U. S. Weather Bureau.
Haddonfield	Camden	75		35.0		68	1	7	24	29	3.89		1.81	9.5	11	10	10	11	W.	C. F. Richardson.
Indian Mills	Burlington	76	8	35.4	1.3	72	1	8	24	30	4.59		1.84	14.5	11	13	9	9	nw.	James Armstrong.
Clayton	Gloucester	126	12	34.7	0.6	69	1	6	24	30	4.36	0.39	1.98	8.0	10	10	9	12	W.	Wm. T. Farley.
Hammonton	Atlantic	80	11								5.09		2.20	15.0	12	8	11	12	.....	Orville Basset.
Tuckerton	Ocean	23	11	36.6	2.4	70	1	11	24	30	5.04	+0.13	2.22	8.0	12	9	10	12	W.	F. R. Austin.
Egg Harbor City	Atlantic	63	19								4.99	-1.27	2.34	11.0	12	10	7	14	nw.	Charles Sahlmann.
Friesburg, (†)	Salem	100	16	35.7	1.4	69	1	7	24	30	3.50	-0.01	1.95	6.0	12	7	13	11	W.	H. C. Perry.
Vineland	Cumberland	118	41	35.0	0.5	68	1	1	24	35	4.51	+0.70	2.21	12.0	11	10	9	12	W.	Alfred Chalmers.
Canton	Salem	24	7								3.84	-0.17	1.87	5.0	10	10	8	13	W.	J. H. Maskell.
Bridgeton, (b)	Cumberland	30	33	36.6	-0.2	71	1	6	24	30	4.56	+0.77	2.08	8.0	11	10	10	11	nw.	Henry A. Jorden.
Pleasantville	Atlantic	26	11																W.	L. Van Gilder.
Northfield	do										4.63		2.08	9.8	13				.....	Wm. L. Flick.
Port Norris	Cumberland	8									4.80		1.80	13.0	11				.....	J. H. Barraclough.
Woodbine	Cape May	43	17																.....	R. D. Maltby.
Cape May C. H.	do	19	21	37.8	0.2	66	1	15	24	27	4.72	1.34	2.00	10.0	12	8	10	13	nw.	L. T. Garretson.
THE SEA COAST.																				
Oceanic	Monmouth	16	22	36.0	0.2	68	1	13	24	29	4.14	0.12	1.90	10.0	12	14	4	13	nw.	Prof. C. E. Dietz.
Long Branch	do	30																	.....	B. B. Bobbitt.
Asbury Park	do	22	20	36.7	1.4	67	1	18	24	32	4.32	0.65	2.03	9.0	11	12	5	14	W.	B. H. Obert.
Atlantic City	Atlantic	16	35	37.6	1.2	68	1	20	3	26	5.26	1.52	2.03	5.3	13	8	5	18	nw.	Section Center.
Cape May City	Cape May	17	24	38.8	0.8	65	1	22	*23	27	4.03	0.25	1.83	5.0	12	8	12	11	nw.	U. S. Weather Bureau.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observations.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\*Occurred on more than one date.

†Report not received in season to be considered in averages.

### Stations.

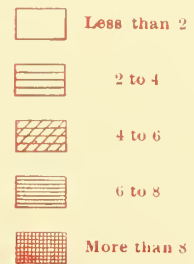
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# Total Monthly Precipitation, December, 1908.



## SCALE OF SHADES—INCHES



## DAILY PRECIPITATION FOR DECEMBER, 1908.

Stations.	Day of month.																															Total.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
THE HIGHLANDS AND KITTA-TINNY VALLEY.																																	
Layton						*	.67					.20		.10			.30	.70												.02	.18	2.2	
Sussex			T.			*	1.00		T.			.10	.22	.05		T.		.08	.52						T.					*	.13	2.1	
Colver's Lake			.03			*	1.05		.02			.27	.17	.02				.08	.88		T.				.08					.01	.17	2.7	
Newton						*	1.06					.18	*	.23				1.02							.01				*	.11	2.0		
Charlotteburg			T.			*	1.42		T.			*	.50	.30				*	.68										*	.12	3.0		
Pompton Plains				.06		*	1.49					*	.40	.04				*	.72					T.					*	.12	2.8		
Boonton			.01			*	1.56					*	.46	.05				*	.70			*	.02						*	.12	2.9		
Dover			T.			*	1.60					.20	*	.51				*	.53			*							*	.31	3.1		
Belvidere			.09			*	1.18					.24	.23	.04				*	.05				.06						*	.15	2.6		
Phillipsburg			T.		T.	*	1.18		T.			.21	.24	.04				.14	.53			.07	.02	T.	.02					.11	.02	2.6	
THE RED SAND STONE PLAIN.																																	
Mahwah			T.			*	1.49					.41	.06				*	.67											*	.23	2.8		
River Vale						*	1.35		T.			.20	.15	.10			*	.60				1.		T.					*	.20	2.6		
Paterson			.02			*	1.70		T.			.12	.32	.05			*	.73				.04	.17	T.					.02	.12	3.1		
Englewood			.05			.12	1.93		T.			.26	.17	T.				.07	.42			.31	.17						.09	T.	3.5		
Little Falls			.02			*	1.40					*	.35	.05				.07	.76			*	.06						*	.15	2.7		
South Orange		T.				*	1.67		T.			.10	.41	.05				.40				*	.25						*	.26	3.4		
Chatham			.03			*	1.90					*	.48	.05				*	.55				*	.25					*	.26	3.4		
Newark			.01			.05	1.85					.20	.25	.05				.05	.23			.12	.15						.10	.09	T.	3.2	
New York, N. Y.			.02			.10	1.81		T.			.21	.16	T.				.10	.36			.25	.11						.09	T.	3.2		
Jersey City			T.			*	1.93		T.			.11	.31	.01				.01	.58		T.	.03	.32						.11	.02	3.4		
Bayonne			.01			*	2.32		T.			.16	.33	.03				.02	.59			*	.30		T.				.08	.06	4.0		
Bergen Point			.02			*	2.42		T.			.16	.31					.02	.52			*	.32						.08	.06	3.9		
Elizabeth			T.			*	1.95					*	.43	.05				.02	.52			*	.30						*	.21	3.6		
Plainfield			.05			*	1.85		T.			.16	.30	.05				.15	.42			.05	.45		T.				.16	.07	3.7		
Somerville			.03			*	2.00					.15	.27	.04				.04	.42			*	.30						*	.15	2.8		
Flemington			.07			*	1.64					.17	.31	.03				T.	.20			.40		T.					*	.17	3.3		
New Brunswick						*	2.10					.19	.30	.10				*	.25			*	.60						*	.11	3.4		
College Farm			.04			*	2.18					.19	.30	.10				.03	.20			*	.60						*	.11	3.4		
Rumson			.02			*	2.07					*	.38	.05				.10	.25			*	.60						T.	.11	3.4		
Lambertville			.08			*	1.67					.20	.37	.02				.02	.58			*	.60						*	.16	3.7		
THE SOUTHERN INTERIOR.																																	
Hightstown						*	2.12					*	.49	T.			*	.42			*	.60							.12		3.7		
Freehold			.01			*	1.87					*	.47	T.			*	.83			*	.50		T.					.12		3.9		
Trenton			.20		.30	1.50						.51	.47	T.			*	.50			*	.40							.12		3.5		
Imlaystown			.01			*	1.60					*	.45	T.			*	.38			*	.42							.17		3.0		
Burlington						*	1.87					.50	.04	.02		.01		.38	.11			*	.90						.10		3.9		
Rancocas						*	1.84					.16	.36	.01				.11	.27			.16	.48						.13		3.5		
Moorestown			.04			* 1.84			T.			.40	.08	T.				.21	.17			.51	.12					.09	T.	3.1			
Philadelphia, Pa.			.16			* 1.84			T.			.28	.29	T.				.18	.31			.55	.24		T.			.12	.06	3.8			
Haddonfield			.05			* 1.84			T.			.16	.45	T.				.06	.25			* 1.35	.10					.30		4.5			
Indian Mills			.08			*	1.98		T.			.16	.75	T.			*	.36			*	.80		T.				.34		4.3			
Clayton			.13			*	2.20					.19	.30				*	.37			*	1.50	.08					*	.29	5.0			
Hammonton			.06			*	2.22					.16	.30				*	.38			*	1.15	.05					.10	.26	5.0			
Tuckerton			.22			*	2.34					.16	.30				*	.44			*	1.02	.06					*	.27	4.9			
Egg Harbor City			.13			*	2.22					.16	.30				*	.38			*	1.15	.05					.10	.26	5.0			
Friesburg			.05			*	1.95					.26	.40				*	.10	.23			.04	.02	.18				*	.21	3.5			
Vineland			.10			*	2.21		T.			.16	.30				*	.07	.60			.60	.00	.07				.02		4.5			
Canton			T.			*	1.87					.16	.30				*	.32			*	.50	.23					.18		3.8			
Bridgeton			.10			*	2.08					.40	.50				.15	.20			*	.80	.15					.18		4.5			
Pleasantville																																	
Northfield			.24			*	2.08					.20	.46	.04				.06	.24			.45	.62	.01				*	.23	4.6			
Port Norris			.30			*	1.80					.16	.30				*	.38				.15	.25	.03	T.			*	.12	4.8			
Woodbine																																	
Cape May C. H.			.38			*	2.00					.73	.11				.12	.18				.41	.60					*	.19	4.72			
THE SEA COAST.																																	
Oceanic			.04			*	1.90					.08	.37	.02			*	.52			*	1.00						*	.21	4.14			
Long Branch																	*	.50				.05	.85		T.			.02	.40	4.32			
Asbury Park			.02			.03	2.00					.18	.27	T.			*	.50				.05	.85		T.			.02	.40	4.32			
Atlantic City			.24			.10	1.93					.62	.18	.06			.18	.15			1.26	.25		.03	T.			.25	.01	5.20			
Cape May City		T.		.34		.30	1.53					.34	.23	.02			.26	.04				.50	.20	.12				.15		4.93			

|| Precipitation measured in the morning.

T. indicates amount too small to measure.

\* Precipitation included in that of the following day.



U. S. DEPARTMENT OF AGRICULTURE

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ANNUAL SUMMARY. 1908.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

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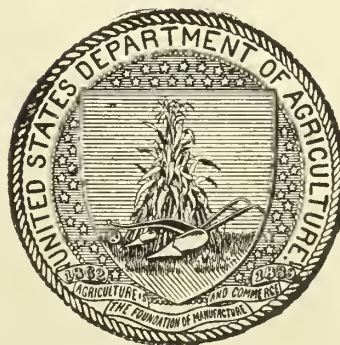
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UNDER DIRECTION OF  
WILLIS L. MOORE  
CHIEF U. S. WEATHER BUREAU

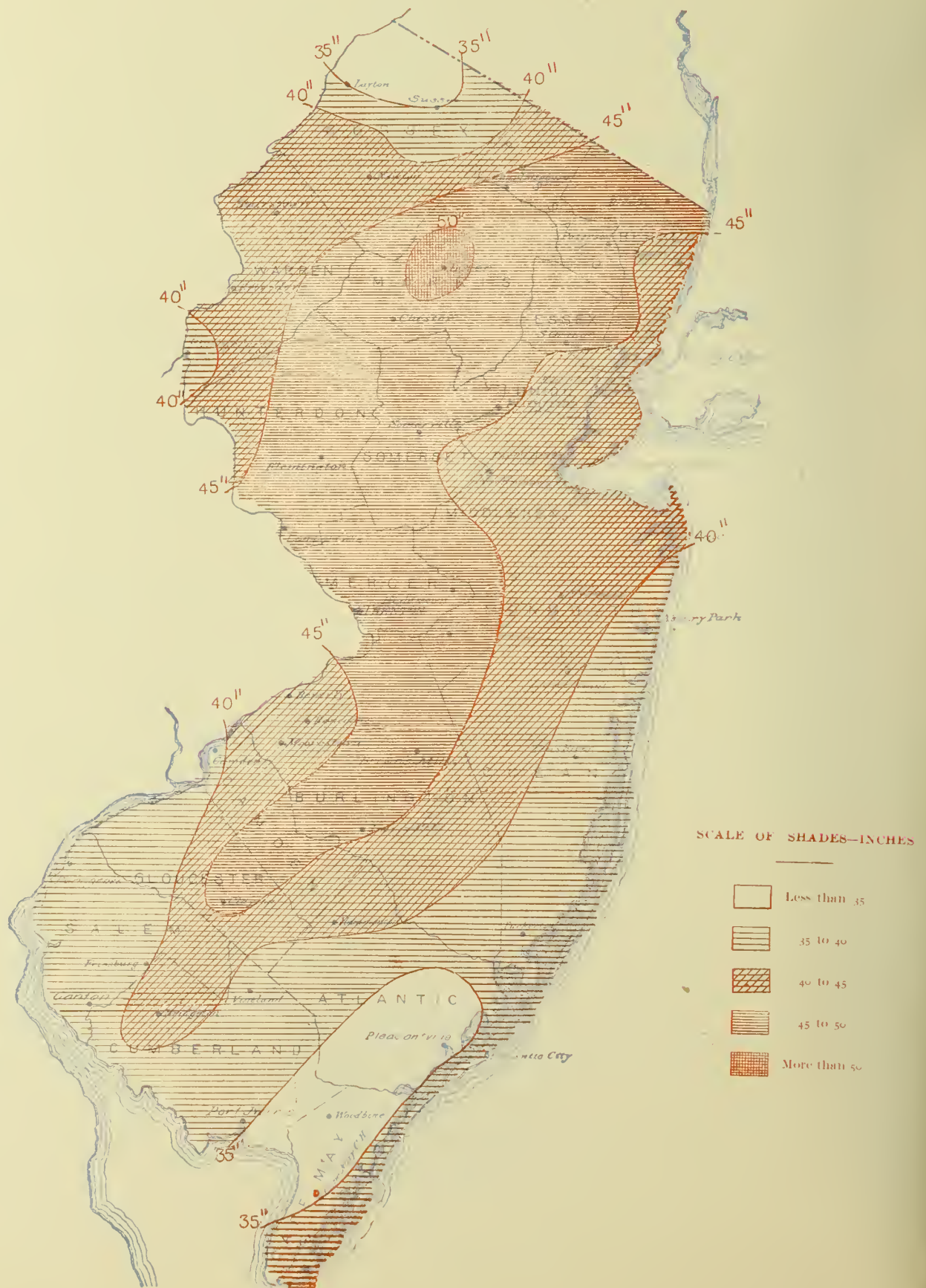
BY

LEVI A. JUDKINS  
SECTION DIRECTOR



ALBANY, N. Y.  
WEATHER BUREAU OFFICE  
MAY 10, 1909

# Total Precipitation for the year 1908.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XXI.

ATLANTIC CITY, N. J.,

YEAR, 1908.

## GENERAL SUMMARY.

Features of the year were the temperature excesses of March and October, the marked temperature extremes of August, the heavy rainfall of May, the deficiency in precipitation during autumn, the large amount of foggy and smoky weather during September, and the excessive sunshine of June. There were only three months during the year (February, August, and September) with a deficiency in mean temperature, and only three (January, February, and May) with precipitation above the average. The average number of rainy days was unusually small, the months of June, September, and October being specially noticeable in this respect.

The annual mean temperature, ranging from 48° to about 55.5°, was decidedly higher than the mean for 1907. An excess of temperature was reported from practically all stations, the departures from the normal being most pronounced in the interior. The first part of summer was marked by high temperature and humidity, while the latter part was cooler than usual. Spring and autumn were generally mild, and the winter of 1907-8 was free from severely cold weather. The annual maximum temperature was the highest reported since 1901. The growing season was long, the interval between the last destructive frost of spring and the first in autumn being approximately 6 months.

There was a considerable deficiency in the annual precipitation, as well as an uneven geographical distribution, and an irregular distribution thru most of the year. As compared with the normal, the deficiency was greatest, 10 to 14 inches, over portions of Sussex and Union counties in the north, and Atlantic and Cape May counties in the south. Local excesses, amounting to less than 1 inch, were reported from a few, scattered stations. The extreme southern part of the State, most of the Sea Coast section, and portions of Sussex, Union and Warren counties in the north received less than 40 inches of precipitation during the year. The region of heaviest precipitation, ranging from 45 to about 51.50 inches, included the counties extending from Hunterdon and Mercer on the west, northeastward to Bergen and Passaic, also limited portions of Burlington and Gloucester counties in the south,—only one station (Dover, Morris County) reporting an annual amount of more than 50 inches. Drought prevailed over a large part of the State from about the close of August until the middle of the first decade of December, causing a serious shortage in the water supply. The annual snowfall was somewhat greater than usual, altho far below the abnormally heavy amount received in 1907.

The sunshine, averaging about 60 per cent of the possible, was nearly normal.

## THE WEATHER BY MONTHS.

**JANUARY.**—The month averaged milder than usual thruout the greater part of the State. Only one well-defined cold wave occurred, and temperatures of zero, or lower, were infrequent. The precipitation was nearly normal and occurred principally as rain. The snowfall was unusually light over most of the northern counties, and was heavy, but not excessive, along the coast. There was no snowfall of consequence until the third decade, and the ground was bare of snow a large part of the month. The sunshine was abundant.

**FEBRUARY.**—The mean temperature was below the normal, the first decade being abnormally cold, and the remainder of the month alternately cold and mild. Low minimum temperatures occurred on the 5th and 10th. There was abundant precipitation over the northern counties, and about the normal amount over the southern part of the State. The snowfall was heavy in the north, and light in the extreme south. There were no marked depths of snow on the ground during the month, rapid melting being caused by rains following each snowfall. Freshets occurred near the middle of the month. The sunshine was ample.

**MARCH.**—Generally mild and favorable weather prevailed. The mean temperature was above the normal in all parts of the State. No zero temperatures or damaging storms occurred. Periods of unseasonably warm weather occurred in the second and third decades, record-breaking maximum temperatures being reported from several stations. The precipitation was below the normal. The snowfall was light, and the depths on the ground disappeared rapidly. The duration of sunshine was nearly normal.

**APRIL.**—The month was warmer than usual, altho cold weather occurred at intervals. The excess in mean temperature resulted mostly from warm weather during the latter part of the third decade, unusually high maximum temperatures being reported on the 23d and 26th. Destructive frosts occurred in the northern counties as late as the 21st, and in the interior of the southern half of the State as late as the 17th. The precipitation was below the normal, and there was no appreciable snowfall. Damaging gales occurred on the 11th and 30th. The sunshine was above the normal.

**MAY.**—The mean temperature was slightly above the normal for the State as a whole, and the precipitation decidedly above. Unseasonably cool weather prevailed during the first decade, and parts of the second and third decades were abnormally warm. The heavy rainfall and the large number of rainy days were marked features of the month. At several northeastern stations the monthly rainfall was the greatest ever received in May within the range of records covering periods of from 30 to more than 60 years. There was excessive cloudiness during the month, and a large amount of dense fog during the latter half.

**JUNE.**—Features of the month were the high percentage of sunshine, the warm wave of the third decade, the small number of rainy days, and the light wind movement. The mean temperature was slightly above the normal. A warm wave began on the 20th and continued almost without interruption to the close of the month, maximum temperatures of 90°, or higher, occurring frequently in the interior during this decade. A deficiency in precipitation was reported over much the greater portion of the State, the rainfall being mostly in the form of local showers and thunderstorms. About 90 per cent of the total monthly precipitation occurred in the middle of the second decade, generally dry weather prevailing at all other times during the month.

**JULY.**—The month was marked by high temperature, excessive humidity, and an uneven geographical distribution of rainfall. The mean temperature was decidedly above the normal. There were no well-defined cool periods during the month, the days being hot and the nights unseasonably warm as a rule.



The monthly rainfall ranged from about 2 to slightly more than 8 inches, and there were numerous instances of wide discrepancies in the monthly amounts over adjoining areas. Local storms of severity, causing loss of life and damage to property by lightning, occurred during the first part of the third decade. The sunshine was nearly normal.

AUGUST.—The weather was cooler than usual, altho brief periods of high temperature occurred at intervals. Most of the third decade was abnormally cool. There was abundant precipitation over the Red Sandstone Plain district and along the immediate coast, while over scattered localities in the northwestern and southern parts of the State local deficiencies of from 1 to 3 inches occurred. The sunshine was slightly below the normal.

SEPTEMBER.—There was a large amount of foggy and smoky weather during the month, and the sunshine was decidedly below the normal. The temperature was nearly normal. Killing frost formed in exposed localities in the north on the 30th. The period extending from the 7th to the 27th, inclusive, was practically rainless, and as a result of the dry weather a serious shortage in the water supply was experienced. Rivers were at exceptionally low stages during the greater part of the month. The situation was partially relieved by rains near the close of the month, altho there was a deficiency in the precipitation for the month as a whole of about 2 inches.

OCTOBER.—Mild and pleasant weather prevailed. The monthly mean temperature was the highest recorded for October in a period of 24 years, with a single exception. Killing frost formed in scattered localities on the 3d, but the first widespread destructive frost of the season occurred on the 13th. Precipitation during the first and second decades was light and infrequent, drought conditions and water famine prevailing until the latter part of the third decade, when generally copious rains occurred. There was a decided deficiency in the precipitation for the State as a whole. The sunshine was nearly normal.

NOVEMBER.—A large part of the month was fair and mild, altho the first two decades were marked by occasional abrupt and decided temperature changes. The mean temperature for the State was nearly normal. The monthly minimum temperature, 2°, was the lowest recorded for November in a period of 24 years. The precipitation was decidedly below the normal, the monthly amounts being less than 1 inch over large areas. There was excessive sunshine in the southern counties, and about the average amount elsewhere.

DECEMBER.—The temperature and precipitation averaged nearly normal for the district as a whole. The month was generally free from severe weather, only one well-defined cold wave and one damaging storm occurring. A heavy snow storm occurred in the southern and eastern counties on the 22-23d. The ground was generally bare of snow at the end of the month. The sunshine was deficient.

#### CLIMATOLOGICAL SUMMARY FOR THE YEAR.

##### TEMPERATURE.

The annual mean, 52.6°, was 0.8° above the normal. The mean maximum was 62.6°, the mean minimum 42.6°, and the mean daily range 20.0°. The annual means for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley, 50.0°, +0.8°; Red Sandstone Plain, 52.6°, +0.9°; Southern Interior, 54.0°, +0.8°; Sea Coast, 53.2°, +0.4°. The highest annual mean was 55.6°, at Bridgeton, and the lowest, 48.4°, at Layton, the range of monthly mean temperature being 7.2°. The highest temperature was 106°, at Brown's Mills, on July 12, and the lowest, -17°, at Layton, on February 10, the annual range within the

State being 123°. The greatest local annual range was 115°, at Layton, and the least, 83°, at Cape May.

##### PRECIPITATION.

The annual average, 42.58 inches, was 4.72 inches below the normal. The averages for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley, 42.92 inches, -4.43 inches; Red Sandstone Plain, 45.36 inches, -3.54 inches; Southern Interior, 40.62 inches, -5.32 inches; Sea Coast, 38.30 inches, -6.81 inches. The greatest annual amount was 51.53 inches, at Dover, and the least, 30.67 inches, at Pleasantville. The greatest local monthly amount was 9.99 inches, at Bergen Point, in May, and the least, 0.35 inch, at Newark, in November. The greatest 24-hour amount was 4.60 inches, at Inlaystown, on June 15-16. The average number of days with measurable precipitation was 103. The average annual snowfall was 36 inches, the averages for the various districts being as follows: The Highlands and Kittatinny Valley, 44 inches; Red Sandstone Plain, 37 inches; Southern Interior, 29 inches; Sea Coast, 33 inches. The greatest annual amount was 57.8 inches, at Layton.

##### SUNSHINE AND CLOUDINESS.

The average number of clear days was 145; partly cloudy, 115; cloudy, 106. The following percentages of the possible amount of sunshine were reported: Atlantic City, 61; Jersey City, 58.

##### WIND.

The prevailing direction was northwest. The highest velocity, for a 5-minute period, was 68 miles per hour, from the northwest, at Jersey City, on April 11.

#### CORRECTIONS, ANNUAL SUMMARY, 1907.

Page 101.—Plainfield: Highest temperature should be on June 25 (and other dates.) Trenton: Highest temperature should be on July 18. Total snowfall for Lambertville, Hightstown, Trenton and Inlaystown, should be 61.2, 50.3, 36.2 and 45.8 inches, respectively. Page 105.—College Farm: Precipitation departure should be -0.66.

##### KILLING FROSTS.

Stations.	Last in spring.	First in autumn.	Stations.	Last in spring.	First in autumn.
Asbury Park.....	Apr. 17	* Nov. 2	Inlaystown.....	* Apr. 21	Oct. 13
Atlantic City.....	* Apr. 5	Nov. 2	Indian Mills.....	* Apr. 22	* Oct. 3
Bayonne.....	* Apr. 21	Oct. 13	Jersey City.....	Apr. 21	Nov. 2
Belvidere.....	Apr. 17	Oct. 13	Lambertville.....	Apr. 22	Oct. 13
Bergen Point.....	* Apr. 21	Nov. 5	Layton.....	* May 5	Sept. 30
Bridgeton.....	Apr. 17	* Nov. 2	Long Branch.....	Apr. 17	Oct. 31
Brown's Mills.....	* Apr. 22	.....	Moorestown.....	Apr. 17	Oct. 13
Burlington.....	.....	Oct. 13	Newark.....	* Apr. 21	* Oct. 13
Canton.....	Apr. 17	Oct. 13	New Brunswick.....	* Apr. 21	* Oct. 3
Cape May.....	* Apr. 5	* Nov. 5	Newton.....	* Apr. 21	Oct. 13
Cape May C. H.....	Apr. 17	* Nov. 2	Oceanic.....	Apr. 17	Nov. 5
Charlotteburg.....	* May 2	Sept. 30	Paterson.....	* Apr. 21	Oct. 13
Clayton.....	* Apr. 17	Oct. 13	Phillipsburg.....	Apr. 21	Oct. 13
College Farm.....	* Apr. 21	Oct. 13	Plainfield.....	* Apr. 21	* Oct. 13
Culver's Lake.....	May 2	Oct. 13	Rancocas.....	Apr. 22	Oct. 13
Dover.....	Apr. 18	Oct. 13	River Vale.....	* Apr. 21	* Oct. 3
Egg Harbor City.....	.....	Nov. 5	Somerville.....	Apr. 21	Oct. 13
Elizabeth.....	* Apr. 18	Oct. 13	South Orange.....	* Apr. 21	* Oct. 13
Englewood.....	* Apr. 21	Oct. 13	Sussex.....	* Apr. 21	Oct. 13
Flemington.....	* Apr. 21	* Oct. 13	Trenton.....	* Apr. 21	Oct. 13
Freehold.....	.....	Oct. 13	Tuckerton.....	* Apr. 22	Oct. 14
Friesburg.....	Apr. 17	Oct. 13	Vineland.....	* Apr. 22	Oct. 3
Haddonfield.....	Apr. 17	* Oct. 13	Woodbine.....	* Apr. 22	Oct. 3
Hightstown.....	Apr. 17	Oct. 3			

\* Dates of last minimum temperature of 32°, or lower, in spring, and of first minimum temperature of 32°, or lower, in autumn.



## Climatological Data for the Year 1908.

Stations.	Counties.	Elevation, feet.	Temperature (degrees Fahrenheit).						Length of record, years.	Precipitation (inches)					Total snowfall.	Number of rainy days.	Number clear days.	Sky		Prevailing direction of wind.
			Length of record, years.	Annual mean.	Highest.	Date.	Lowest.	Date.		Total for the year.	Greatest monthly.	Month.	Least monthly.	Monthly.				Number partly cloudy days.	Number cloudy days.	
THE HIGHLANDS AND KITTATINNY VALLEY.																				
Layton	Sussex	550	9	48.4	98	July 12	-17	Feb. 10	9	34.70	5.73	May	1.17	Nov.	57.8	89	149	115	102	W.
Sussex	do	442	14	50.2	95	July 12	-10	Feb. 10	14	34.94	6.41	May	0.55	Nov.	40.5	90	151	115	100	SW.
Culver's Lake	do	848							7	41.82	7.20	May	0.75	Nov.	52.6	114	155	117	94	S.
Newton	do	678	28	49.0	97	July 12	-10	Feb. 5	28	40.14	7.10	May	0.76	Nov.	44.5	93	154	107	105	S.
Charlotteburg	Passaic	719	16	49.2	94	July 12	-8	*Feb. 5	16	47.80	7.85	May	0.67	Nov.	37.7	91	149	114	103	W.
Pompton Plains	Morris	195							6	49.19	10.31	May	0.88	Nov.	41.0	113				HW.
Boonton	do	413							11	46.26	8.85	May	1.26	Nov.	42.5	116				HW.
Dover	do	575	24	48.8	98	July 12	-14	Feb. 5	24	51.53	7.72	May	1.02	Nov.	47.4	102	110	145	111	
Belvidere	Warren	289	18	51.6	97	July 12	-4	Feb. 5	18	43.70	7.52	May	0.82	Nov.	39.8	105	152	105	109	
Phillipsburg	do	196	6	51.9	98	July 12	-3	Feb. 5	6	39.16	6.34	May	0.96	Nov.	40.8	118	162	98	106	W.
THE RED SAND STONE PLAIN.																				
Mahwah	Bergen								6	47.34	10.19	May	0.62	Nov.	39.4	99				HW.
River Vale	do	70	17		98	July 12	-11	Feb. 10	17		8.87	May	0.40	Nov.						HW.
Paterson	Passaic	110	38	53.2	99	July 12	-2	Feb. 5	30	45.47	8.40	May	0.77	Nov.	36.9	101	108	172	86	HW.
Englewood	Bergen	135	22	50.5	94	July 12	0	Feb. 5	22	43.66	9.44	May	0.89	Nov.	48.0	102	153	76	137	HW.
Little Falls	Passaic	175							6	47.61	10.84	May	0.87	Nov.	41.4	116				W.
Morristown	Morris	372									7.32	May								
South Orange	Essex	200	39	51.5	95	July 12	-2	Feb. 5	39	45.11	8.17	May	0.94	Nov.	37.7	99	146	116	104	W.
Chatham	Morris	234							6	45.61	8.67	May	1.17	Nov.	32.8	112				W.
Newark	Essex	140	66	53.3	99	July 12	-2	Feb. 5	66	47.66	9.01	May	0.35	Nov.	28.7	104	116	132	118	HW.
New York, N. Y.	New York	314	38	53.5	93	July 12	1	Feb. 5	38	41.43	9.10	May	0.75	Nov.	33.5	104	128	126	112	HW.
Jersey City	Hudson	15	3	54.0	96	July 6	1	Feb. 5	3	43.38	9.09	May	0.93	Nov.	30.0	107	117	133	116	HW.
Bayonne	do	50	18	52.7	97	July 6	-1	Feb. 5	18	42.85	9.23	May	0.97	Nov.	38.4	116	139	112	115	W.
Bergen Point	do	37	11	52.8	96	July 12	0	Feb. 5	11	47.86	9.99	May	0.85	Nov.	41.6	107	127	140	99	HW.
Elizabeth	Union	33	29	53.8	100	July 12	0	Feb. 5	29	39.36	8.00	May	1.00	Nov.	30.0	101	149	111	106	
Plainfield	do	100	21	51.9	100	July 12	-2	Feb. 5	21	48.59	7.40	May	1.09	Nov.	41.4	119	143	131	92	SW.
Somersville	Somerset	76	26	52.7	100	July 12	-1	*Feb. 5	28	47.99	7.20	May	1.12	Nov.	36.4	107	152	101	113	SW.
Flemington	Hunterdon	187	11	52.6	99	July 12	-5	Feb. 10	11	48.88	9.02	May	0.86	Nov.	33.0	120	160	105	101	W.
New Brunswick	Middlesex	61	55	52.3	98	July 12	-2	*Jan. 31	55	43.39	6.44	May	0.53	Nov.	42.6	104	150	116	100	W.
College Farm	do	100	13		98	July 12	-5	Feb. 5	13		7.23	May	1.16	Nov.		153	112	101	HW.	
Rumyon	do	18							2	39.38	7.17	May	1.01	Nov.	30.9	92				
Lambertville	Hunterdon	95	22	53.1	98	July 12	0	Feb. 5	22	46.91	9.40	May	1.11	Nov.	39.0	98	156	118	92	HW.
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	17	53.1	98	July 12	0	Feb. 5	17	48.31	7.18	May	1.04	Nov.	32.0	89	160	94	112	HW.
Freehold	Monmouth	187							25											
Trenton	Mercer	60	39	54.2	96	*June 24	-1	Feb. 5	39	48.57	6.80	May	0.80	Nov.	26.0	87	136	139	91	HW.
Imlaystown	Monmouth	100	22		99	July 12	0	Feb. 5	22		7.67	May	1.21	Nov.						HW.
Burlington	Burlington	12							16	45.71	7.24	May	1.11	Nov.	36.4	106				HW.
Rancocas	do	68			99	July 12	2	*Feb. 5	23	44.77	6.28	May	1.05	Nov.	34.4	112	168	73	125	HW.
Brown's Mills	do	71	2		106	July 12	-2	*Feb. 10	2		7.21	May								
Moorestown	do	71	44	53.4	96	July 12	1	*Feb. 5	44	43.45	7.39	May	1.04	Nov.	34.5	116	161	93	112	S.
Philadelphia, Pa.	Philadelphia	117	38	55.5	97	July 12	5	Feb. 5	38	38.13	6.85	May	0.67	Nov.	27.8	109	131	124	111	HW.
Toms River	Ocean	33	17		90	July 12	-3	*Jan. 31	17					Nov.						
Haddonfield	Camden	75	1		97	July 12	4	*Feb. 5	1		6.16	May	1.26	Nov.						SW.
Indian Mills	Burlington	76	8	53.9	100	July 12	2	*Feb. 5	8	47.05	7.14	May	1.29	Nov.	39.5	106				HW.
Clayton	Gloucester	126	12	53.8	98	July 12	3	Feb. 5	12	46.30	8.12	July	1.20	Nov.	25.5	92	145	121	100	SW.
Hammononton	Atlantic	80							11	41.64	6.53	July	0.99	Nov.	39.0	103	136	138	92	
Tuckerton	Ocean	23	11	53.3	95	*June 24	3	*Jan. 31	11	38.25	5.50	May	0.97	June	26.5	100				SW.
Egg Harbor City	Atlantic	63			98	*July 12	0	Feb. 5	19	38.04	6.84	May	1.03	Nov.	27.3	88	144	118	104	SW.
Friesburg	Salem	100	11	54.1	98	July 12	1	Feb. 9	16	36.50	5.87	May	1.18	Nov.	24.5	119	131	143	92	W.
Vineland	Cumberland	118	41	54.1	102	July 12	1	Dec. 24	41	39.55	6.26	July	0.91	Nov.	29.0	106	150	118	98	HW.
Canton	Salem	24							7	39.38	6.05	May	1.12	Nov.	21.7	86	157	118	91	
Bridgeton	Cumberland	30	33	55.6	100	July 12	3	Feb. 9	33	42.79	7.73	May	1.02	Nov.	31.0	87	166	79	121	HW.
Pleasantville	Atlantic	26							11	30.67	5.41	May	0.83	June	20.6	108	146	117	103	SW.
Northfield	do								1	33.76	5.80	May	0.90	June	24.9	113				
Port Norris	Cumberland								1	36.03	5.94	May	0.93	Nov.	25.5	96				
Woodbine	Cape May	43	17		97	July 12	4	*Jan. 31	17	33.85	4.88	May	0.77	June	26.2	88	150	122	94	S.
Cape May C. H.	do	19	21	54.5	93	*July 12	5	*Jan. 31	21	34.59	4.72	Dec.	0.81	June	30.5	106	128	128	110	HW.
THE SEA COAST.																				
Oceanic	Monmouth	16	22	53.2	97	June 24	4	Jan. 31	22	42.07	6.52	May	1.14	Nov.	38.0	119	162	98	106	HW.
Long Branch	do	30	2				3	Jan. 31	2		6.50	Aug.	0.91	Nov.	41.0					HW.
Asbury Park	do	22	20	52.6	89	*June 20	2	Jan. 31	20	37.80	5.99	May	0.85	June	35.5	105	159	97	110	W.
Atlantic City	Atlantic	16	35	53.1	92	July 19	6	Feb. 5	35	37.88	5.56	May	0.91	Nov.	18.1	112	112	110	144	SW.
Cape May City	Cape May	17	24	53.8	89	July 19	6	Feb. 5	24	35.43	5.03	Aug.	1.24	Nov.	32.9	126	128	146	92	S.

\* Occurred on more than one date.

† Delayed report; not included in average.

## Monthly and Annual mean temperatures for the year 1908, with departures from the normal.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.	Temperature.	Departure.
THE HIGHLANDS & KIT-TATINNY VALLEY.																										
Layton .....	26.4	+2.6	22.0	.....	36.0	+0.3	47.4	+1.5	59.3	+1.6	66.1	+0.7	72.6	+1.7	67.2	-1.0	63.3	+0.5	52.6	+2.6	38.8	+0.8	28.6	-0.2	48.4	+1.0
Sussex .....	28.4	+2.3	24.0	+0.9	37.6	-0.9	49.2	+0.8	61.0	+0.9	67.9	+0.6	74.2	+2.1	68.8	-1.1	64.8	-0.7	54.2	-1.8	41.0	+0.0	30.7	+1.0	50.2	+0.8
Newton .....	28.2	+2.8	23.6	-1.7	37.7	-2.0	47.8	+0.2	60.0	+0.7	67.7	0.0	74.0	+2.1	69.2	-0.8	65.0	+1.5	54.4	-2.7	40.4	+0.9	30.6	+1.2	49.9	+1.0
Charlotteburg .....	27.8	+0.9	23.6	-1.4	38.0	-2.0	47.6	+1.1	59.4	+1.9	66.2	+1.1	72.6	+2.5	67.2	-0.8	63.6	+1.2	53.4	-2.6	40.4	+0.3	30.8	+0.7	49.2	+1.0
Dover .....	26.9	+0.4	23.4	-2.6	36.8	+1.9	47.6	-0.3	59.6	+1.0	67.8	+0.7	73.0	+1.5	66.6	-2.8	61.8	-0.9	53.0	-2.3	39.5	-0.7	29.4	-0.9	48.8	0.0
Belvidere .....	30.2	+3.5	26.2	-0.1	40.9	+3.2	50.8	+1.5	62.0	+1.2	70.2	+1.0	74.8	+1.4	69.4	-2.1	65.2	-1.0	56.4	-3.4	41.0	+0.3	32.0	+1.4	51.6	+1.1
Phillipsburg .....	30.2	+3.6	26.8	-1.0	41.4	+4.5	50.8	-1.4	62.1	-1.1	70.8	+0.7	76.1	+1.7	70.8	-0.8	65.8	-0.8	56.3	-3.6	41.0	-0.6	31.0	-0.3	51.9	-1.2
THE RED SANDSTONE PLAIN.																										
River Vale .....	.....	.....	25.2	-0.9	37.2	.....	47.9	+0.4	61.1	+2.2	66.6	-0.7	73.4	+1.0	68.0	-2.2	64.0	+0.5	54.4	+2.1	39.8	-1.2	.....	.....	.....	.....
Paterson .....	32.4	+3.2	28.2	-1.9	41.4	+3.0	51.9	+1.6	62.6	+1.3	71.7	+1.7	76.2	+1.9	71.1	-1.0	66.8	+0.5	57.8	+3.5	43.4	-0.2	34.3	+1.3	53.2	-1.3
Englewood .....	32.2	+3.4	27.3	-1.4	39.0	+0.8	49.8	+1.3	58.4	-1.4	67.9	-0.4	73.4	-0.9	69.0	-2.2	62.7	-1.5	54.8	+2.1	40.4	-1.9	30.8	-1.6	59.5	0.2
South Orange .....	30.2	+1.6	26.6	+2.3	40.5	+3.9	49.8	+1.6	60.6	+0.6	69.4	+1.6	74.8	+1.7	69.2	-1.8	65.0	+0.9	56.1	+3.2	42.4	-0.9	33.0	+0.9	51.5	+1.1
Newark .....	32.4	+3.4	28.0	-0.1	41.4	+2.9	51.6	+2.1	62.0	-1.4	71.6	+2.3	76.4	+2.0	72.8	-1.6	67.5	+1.0	57.9	+3.5	43.6	-0.4	34.7	+1.4	53.3	+1.6
New York, N. Y. ....	32.0	+1.8	28.1	-2.6	41.4	+3.9	50.6	+2.5	61.3	+2.0	71.6	+3.1	76.8	+3.3	72.5	+0.3	67.8	+1.3	59.6	+4.0	44.7	-0.7	35.2	-0.8	53.5	+1.8
Jersey City .....	32.4	.....	28.6	.....	42.0	.....	51.8	.....	62.6	.....	72.8	.....	77.6	.....	73.0	.....	63.0	.....	59.0	.....	44.3	.....	35.4	.....	54.0	.....
Bayonne .....	31.7	+2.0	27.6	-1.4	40.6	+1.4	50.7	+1.0	61.1	+0.2	71.2	+1.5	76.2	+1.3	71.6	-2.1	66.6	+1.3	57.8	+2.1	43.1	-0.6	34.4	+0.6	52.7	+0.4
Bergen Point .....	32.2	+1.8	28.2	0.0	41.6	+1.6	50.7	+1.6	60.9	+0.8	71.0	+2.2	75.6	+1.2	71.4	-0.9	66.7	-0.2	57.8	+2.2	43.8	-0.2	34.3	+1.5	52.8	-1.0
Elizabeth .....	32.2	+2.3	28.8	+1.5	42.6	+4.4	53.3	+2.6	63.0	+0.8	73.0	+2.6	77.8	+2.3	72.5	-1.1	67.1	-0.1	57.6	+2.9	43.1	-0.3	34.4	+0.9	53.8	+1.3
Plainfield .....	30.2	+1.5	27.0	.....	40.5	+1.8	50.7	+1.3	60.8	+0.1	69.9	+0.6	75.4	+0.9	70.6	-2.2	65.5	-0.3	56.6	+2.6	42.4	+0.4	32.8	+0.4	51.9	+0.5
Somerville .....	30.8	+2.6	28.0	-0.4	41.6	+3.9	51.4	+2.4	62.2	+1.4	71.0	+1.4	76.9	+2.7	71.5	-1.2	66.9	+0.5	57.1	+3.4	41.6	-0.8	33.0	+0.6	52.7	+1.4
Flemington .....	31.2	+2.0	27.8	.....	41.8	+1.4	51.2	+1.6	62.4	+1.4	70.6	+1.2	76.8	+1.8	71.4	-1.2	66.2	-0.6	57.2	+2.1	41.8	-0.7	32.6	+1.1	52.6	+1.0
New Brunswick .....	31.8	+1.4	27.3	+3.9	41.6	+3.5	50.2	+0.5	61.0	+0.4	69.6	+0.0	76.1	+1.8	71.0	-1.5	65.4	-0.6	57.0	+2.3	42.7	-0.9	34.0	+0.8	52.3	+0.2
College Farm .....	30.4	-0.7	27.2	0.6	41.9	+1.4	50.4	+0.7	60.6	-0.7	69.6	+0.8	75.1	-0.5	69.6	-2.8	64.2	-2.1	.....	.....	.....	.....	.....	.....	.....	.....
Lambertville .....	31.8	+1.7	28.6	-1.4	42.8	+4.0	52.2	+1.9	62.8	+1.1	71.2	+1.0	76.8	+2.3	71.0	-1.6	65.5	-0.6	57.7	+4.2	42.6	-0.2	33.7	+0.2	53.1	-1.0
THE SOUTHERN INTERIOR.																										
Hightstown .....	32.0	+2.7	28.6	-0.1	42.6	+2.0	52.1	+2.0	62.3	+0.9	70.2	+0.9	76.5	+1.8	71.2	-1.4	65.7	-1.7	58.1	+3.6	43.8	+0.2	34.3	+1.1	53.1	+1.0
Trenton .....	34.3	+1.5	30.6	-0.7	43.6	+1.1	53.9	+0.9	63.0	+0.1	71.1	-0.1	77.0	+0.3	71.4	-3.1	65.9	-2.5	58.8	+1.7	45.2	-1.2	37.0	-0.4	54.2	-0.1
Imlaystown .....	31.6	+0.0	27.9	-2.8	.....	.....	51.6	+1.1	62.8	+0.6	71.0	+0.3	77.0	+1.9	71.2	-2.0	65.6	-1.1	57.8	+2.9	43.7	-0.5	33.8	.....	.....	.....
Brown's Mills .....	32.4	.....	28.6	.....	42.0	.....	51.4	.....	64.2	.....	71.4	.....	78.0	.....	71.0	.....	65.8	.....	.....	.....	.....	.....	.....	.....	.....	.....
Moorestown .....	32.3	+2.2	29.4	-1.4	43.6	+5.3	52.8	+2.9	62.6	+1.6	70.2	+0.0	76.2	+1.4	71.2	-1.3	66.0	+0.2	58.4	+4.2	43.7	-0.9	34.7	+1.5	53.4	+1.5
Philadelphia, Pa. ....	34.8	+3.0	31.2	-1.6	45.0	+5.0	54.6	+3.8	63.6	+1.4	73.1	+1.9	78.4	+2.6	73.4	-0.4	68.1	-0.7	60.6	+4.3	46.3	+1.4	37.1	+1.4	55.5	+2.0
Toms River .....	31.3	+0.2	27.7	-1.9	43.0	+3.4	50.6	+1.9	.....	.....	69.8	+0.8	75.2	+0.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Haddonfield .....	.....	.....	30.4	.....	43.5	.....	52.7	.....	63.0	.....	70.8	.....	76.6	.....	71.5	.....	66.0	.....	58.3	.....	44.0	.....	35.0	.....	.....	.....
Indian Mills .....	32.5	+1.2	30.3	.....	44.6	+1.7	53.2	+2.8	63.5	+1.3	70.6	+1.6	76.6	+1.3	71.4	-1.5	65.7	-1.8	58.1	+2.9	45.2	+1.7	35.4	+1.3	53.9	+1.1
Clayton .....	31.3	-0.2	29.8	.....	44.6	+2.4	53.4	+3.3	63.4	+1.9	70.6	+1.2	76.8	+1.7	71.6	-1.8	65.8	-1.8	58.2	+1.9	44.8	+0.9	34.7	+0.6	53.8	+1.0
Tuckerton .....	32.6	+0.7	30.2	.....	43.2	+2.8	51.4	+3.2	61.0	+1.3	69.0	+0.6	76.3	+1.8	71.0	-2.0	65.4	-1.3	58.3	+2.9	44.2	+0.2	36.6	+2.4	53.3	+1.2
Friesburg .....	33.2	+0.6	29.9	.....	44.8	+2.4	53.2	+3.0	63.6	+2.0	70.8	+1.1	76.9	+1.3	71.2	-2.5	65.8	-2.0	58.9	+2.7	45.0	+0.7	35.7	+1.4	54.1	+0.9
Vineland .....	33.2	+1.4	30.3	-2.0	44.8	+4.6	53.4	+2.9	63.5	+1.4	70.2	+1.4	77.2	+0.7	71.8	-1.9	65.8	-1.2	58.7	+3.2	45.0	+1.1	35.0	-0.5	54.1	0.8
Bridgeton .....	33.8	-0.2	30.8	-3.4	46.2	+3.9	54.9	+2.2	65.2	+0.6	72.9	-0.4	78.9	+1.7	73.4	-2.2	67.6	-1.2	60.2	+3.2	46.2	+0.3	36.6	-0.2	55.6	+0.4
Woodbine .....	33.4	+1.3	31.0	.....	45.0	+3.6	52.8	+3.0	62.8	+2.2	69.0	+0.4	76.0	+2.3	70.4	-2.2	64.0	-3.0	.....	.....	.....	.....	35.6	+0.2	.....	.....
Cape May C. H. ....	34.4	+0.1	31.4	-2.1	45.0	+3.4	53.5	+3.1	62.0	+1.3	69.7	-0.1	76.7	+2.6	71.4	-2.0	66.0	-1.8	59.8	+3.1	46.5	-0.1	37.8	+0.2	54.5	+0.6
THE SEA COAST.																										
Oceanic .....	32.6	+0.3	29.8	-1.7	42.8	+3.2	51.5	+0.9	60.2	-0.6	70.2	+0.7	75.8	+1.4	70.8	-2.2	65.9	-1.5	59.0	+3.7	44.2	-0.8	36.0	+0.2	53.2	+0.3
Long Branch .....	33.5	.....	29.6	.....	43.2	.....	51.4	.....	60.2	.....	68.8	.....	71.6	.....	.....	.....	66.8	.....	60.0	.....	45.1	.....	37.1	.....	.....	.....
Asbury Park .....	33.2	+1.1	29.6	.....	41.6	+2.5	49.8	+1.1	58.6	0.4	68.4	+0.2	72.5	-0.2	71.0	-1.1	66.2	-1.0	59.2	+3.6	44.2	-0.4	36.7	+1.4	52.6	+0.4
Atlantic City .....	34.1	+1.6	30.1	-2.9	41.8	+3.0	50.9	+3.3	58.5	+1.0	68.2	+1.4	73.6	+1.1	71.0	-1.6	66.4	-1.2	59.5	+2.1	46.0	+0.5	37.6	+1.2	53.1	+0.7
Cape May City .....	35.4	+1.3	31.2	-2.9	42.8	+2.0	51.2	+2.8	59.8	+1.2	68.2	+0.5	73.0	-0.4	70.8	-2.6	66.8	-2.2	59.6	+2.0	47.6	+0.2	38.8	+0.8	53.8	+0.2



Monthly maximum temperatures for the year 1908, with dates.

Stations.	January		February		March		April		May		June		July		August		September		October		November		December	
	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.	Maximum.	Date.
THE HIGHLANDS AND KITTATINNY VALLEY.																								
Dayton	56	21	56	15	77	27	84	23	87	28	93	24	98	12	97	4	90	11	87	17	63	3	64	1
Duxbury	54	21	60	15	78	27	85	23	88	28	92	24	95	12	94	4	86	19	85	*16	61	3	65	1
Newton	50	22	57	15	78	27	82	23	89	25	93	24	97	12	94	4	89	19	89	*16	61	3	64	1
Charlotteburg	55	21	54	*14	77	27	83	23	85	*24	91	24	94	12	92	4	85	25	87	17	59	3	63	1
Overton	52	21	54	15	76	27	82	*23	88	*27	92	24	98	12	92	4	80	*18	85	17	60	27	62	1
Elvidere	57	21	58	15	81	27	86	*23	89	*13	95	24	97	12	93	4	85	*11	87	*17	62	3	65	1
Hillipsburg	51	21	58	15	80	27	85	*23	90	28	97	24	98	12	97	4	89	25	87	*17	60	*9	63	1
THE RED SANDSTONE PLAIN.																								
Iver Vale			55	15	78	27	84	26	88	27	94	24	98	12	92	13	85	19	87	17	62	*3	65	1
Aterson	60	21	57	15	82	27	88	26	91	27	96	24	99	12	94	4	85	*11	90	17	64	3	68	1
Anglewood	53	7	56	15	77	27	81	23	84	*13	91	24	94	12	92	4	80	11	83	17	63	4	61	1
North Orange	55	21	57	15	77	27	82	26	86	27	93	24	95	12	90	*4	82	*11	82	17	64	26	65	1
Newark	57	21	58	15	80	27	85	26	88	27	96	24	99	12	96	4	87	19	90	17	66	26	65	1
New York, N. Y.	53	21	56	15	75	27	79	26	86	27	93	24	93	12	91	4	83	19	84	17	62	26	64	1
Rose City	55	*21	55	15	78	27	83	*23	91	*24	95	24	96	6	93	13	85	19	84	16	61	*3	67	1
Atyone	57	21	57	15	78	27	83	26	89	24	95	24	97	6	94	4	85	19	87	18	60	*4	64	1
Argen Point	57	21	57	15	80	27	84	26	88	27	94	24	96	12	92	*4	84	19	85	18	62	4	65	1
Lizbeth	57	21	58	15	78	27	87	26	91	*13	99	24	100	12	96	4	84	19	83	16	65	26	64	1
Lainfield	54	22	58	15	79	27	85	26	89	*13	96	24	100	12	95	4	85	19	87	17	65	26	66	1
Overville	55	21	59	15	80	27	86	26	92	13	98	24	100	12	97	4	87	19	88	*17	62	26	66	1
Lemington	55	21	60	15	80	27	83	*26	90	*13	95	24	99	12	96	4	87	25	89	17	61	3	67	1
New Brunswick	53	21	58	15	77	27	84	26	87	*24	95	24	98	12	95	4	86	19	85	*16	65	26	65	1
College Farm	53	21	60	15	78	27	83	26	87	27	95	24	98	12	94	4	85	19	84	18	68	26	65	1
Warrentonville	55	21	62	15	81	27	84	*26	89	28	95	24	98	12	95	4	85	25	86	18	62	*9	66	1
THE SOUTHERN INTERIOR.																								
Lightstown	53	*12	58	15	78	27	85	26	89	27	96	24	98	12	94	*4	85	*1	91	18	71	26	68	1
Clinton	55	12	60	15	76	27	80	*23	89	28	96	24	96	12	92	4	82	25	82	18	68	26	66	1
Daystown	56	12	59	15			86	26	91	27	98	24	99	12	96	4	86	25	92	18	72	26	68	1
Down's Mills	60	12	65	15	89	27	93	26	95	*26	99	*23	106	12	103	4	90	25						
Forestown	58	12	61	15	80	27	84	26	88	28	95	24	96	12	94	4	84	25	86	18	69	26	67	1
Philadelphia, Pa.	57	22	63	15	78	27	83	26	89	28	95	24	97	12	94	4	85	19	85	18	66	26	68	1
Ans River	57	*12	55	15	82	27	82	23	92	27	96	24	99	12										
Addonfield			61	15	80	27	85	26	90	28	95	24	97	12	94	4	86	25	89	18	67	26	68	1
Dian Mills	58	*12	59	15	82	27	89	26	91	27	97	24	100	12	96	4	87	12	90	18	72	*24	72	1
Dayton	56	12	61	15	80	27	86	26	92	28	94	24	98	12	94	4	85	*12	88	18	69	30	69	1
Rockerton	59	22	51	15	73	29	81	26	89	*13	95	24	95	*6	95	14	84	19	84	18	67	24	70	1
Resburg	59	12	64	15	80	27	83	*26	90	28	94	24	98	12	94	4	87	12	89	18	70	30	69	1
Deland	58	12	58	*14	81	27	87	26	90	*27	96	24	102	12	95	4	86	12	89	18	70	*10	68	1
Edgeton	60	12	62	15	82	27	87	26	92	*27	97	24	100	12	98	*4	88	12	88	18	70	*24	71	1
Edgemo	59	22	57	15	76	27	83	26	88	28	96	24	97	12	92	4	82	12			69	30	68	1
Pe May C. H.	57	22	52	15	74	29	81	26	88	28	92	24	93	*12	90	4	81	12	83	16	65	*4	66	1
THE SEA COAST.																								
Sanic	57	21	56	15	80	27	83	23	89	27	97	24	96	12	93	5	83	19	86	18	63	*4	68	1
ing Branch	55	21	54	15	73	27	75	26	90	27	90	21				*4	84	19	85	*16	66	4	69	1
ury Park	53	22	53	15	68	*27	75	26	88	27	89	*20	89	19	87	15	82	19	83	18	64	4	67	1
antic City	59	22	49	15	64	12	72	13	85	13	90	20	92	19	87	18	87	12	83	16	65	4	68	1
Pe May City	57	22	50	15	62	28	72	13	82	13	87	20	89	19	83	*18	84	12	78	*16	64	4	65	1

\* Occurred on more than one date.

## Monthly minimum temperatures for the year 1908, with dates.

Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.	
	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.	Minimum.	Date.
<b>THE HIGHLANDS &amp; KIT-TATINNY VALLEY.</b>																								
Layton	-6	31	-17	10	7	1	13	5	29	5	35	3	42	*9	36	21	31	*16	21	*13	2	16	2	24
Sussex	-1	31	-10	10	13	1	18	5	34	*3	40	3	46	9	44	21	36	*16	24	13	10	16	6	24
Newton	-5	31	-10	5	10	1	17	5	33	*2	40	3	45	9	42	21	31	30	25	13	9	16	8	24
Charlotteburg	-3	31	-8	*5	9	*1	14	5	30	2	39	7	44	*11	37	21	29	30	19	13	15	16	3	24
Dover	-1	31	-4	5	13	1	18	5	34	2	40	3	47	*9	43	21	36	30	25	13	12	16	9	24
Belvidere	1	31	-4	5	16	1	20	5	36	*2	45	3	49	17	45	*21	38	30	27	13	5	16	10	6
Phillipsburg	1	31	-3	5	16	1	22	5	38	*2	45	3	51	*9	47	21	39	30	30	13	9	16	12	24
<b>THE RED SAND STONE PLAIN.</b>																								
River Vale			-11	10	16	5			32	4	39	3	45	9	39	*21			21	13	10	16		
Paterston	2	31	-2	5	17	1	23	5	36	2	40	3	54	9	47	29	41	30	31	13	21	16	17	*6
Englewood	3	31	0	5	18	1	22	5	35	3	44	3	50	11	44	29	38	30	34	4	20	16	12	24
South Orange	1	31	-2	5	18	1	22	5	38	*2	45	3	52	17	47	*21	41	30	31	13	21	16	14	24
Newark	1	31	-2	5	18	1	25	*4	38	3	40	3	55	*9	49	29	42	30	32	13	22	16	14	24
New York, N. Y.	4	31	1	5	23	10	27	5	40	3	56	3	62	16	56	27	53	30	38	13	27	5	20	10
Jersey City	3	31	1	5	20	1	26	5	40	3	53	*3	59	9	53	30	47	30	37	*13	25	16	20	*10
Bayonne	3	31	-1	5	18	1	25	5	40	*2	49	7	56	17	49	29	43	30	35	13	23	16	16	24
Bergen Point	3	31	0	5	19	1	25	5	39	3	48	7	55	17	51	*29	45	30	35	13	22	16	15	24
Elizabeth	3	31	0	5	20	1	26	5	40	*2	49	7	56	9	50	26	45	30	34	13	21	16	17	24
Plainfield	0	31	-2	5	18	1	21	5	34	2	43	3	50	*9	45	21	40	30	29	13	15	16	7	24
Somerville	0	31	-1	*5	17	1	20	5	35	2	45	3	50	9	46	21	41	*16	29	13	9	16	8	24
Flemington	3	31	-5	10	17	1	20	5	36	2	46	3	49	17	47	29	40	30	30	13	7	16	3	24
New Brunswick	-2	31	-2	5	18	1	20	5	36	2	44	7	49	17	44	21	39	30	28	13	13	16		
College Farm	-1	31	-5	5	19	1	20	5	36	3	45	*3	48	*9	42	30	37	30	25	13	9	16		
Lambertville	4	31	0	5	18	1	22	5	39	*2	46	3	51	17	47	29	38	30	30	13	11	16	8	24
<b>THE SOUTHERN INTERIOR.</b>																								
Hightstown	2	31	0	5	19	1	23	5	38	*2	45	7	50	*9	45	21	39	30	28	13	17	16	6	24
Trenton	2	31	-1	5	22	*1	25	5	39	10	50	*2	56	*9	49	30	44	30	33	13	18	16	17	24
Imlaystown	2	31	0	5			19	5	38	3	45	7	51	17	46	*21	40	30	31	13	20	16	5	24
Brown's Mills	2	31	-2	10	10	5	16	5	35	4	40	7	42	9	40	21	33	30						
Moorestown	2	31	1	*5	20	1	24	5	39	2	47	7	52	17	49	*21	43	30	33	14	19	16	10	24
Philadelphia, Pa.	9	31	5	5	24	1	30	5	42	1	57	6	65	11	56	26	50	30	40	31	28	5	23	6
Toms River	-3	31	0	5	17	5	18	5	38	1	40	7	47	*9										
Haddonfield			4	*5	20	21	22	5	39	1	46	7	52	17	47	21	40	30	31	13	19	16	7	24
Indian Mills	3	31	2	*5	20	*4	17	5	37	11	41	7	45	17	44	21	36	30	27	*13	18	16	8	24
Clayton	5	31	3	5	22	*1	23	5	40	1	45	7	53	17	49	*29	40	30	32	*13	21	16	6	24
Tuckerton	3	31	3	5	20	*1	20	5	36	11	42	7	53	*9	46	30	39	30	31	13	19	16	11	24
Friesburg	3	31	1	9	22	5	24	5	40	*1	46	2	50	17	46	*21	39	30	32	13	22	16	7	24
Vineland	3	31	3	*5	21	21	22	5	39	2	43	7	50	17	49	*29	40	30	32	*3	22	16	1	24
Bridgeton	6	31	3	9	22	21	30	*3	40	*1	47	7	54	17	49	*29	40	30	34	13	22	16	6	24
Woodbine	4	31	4	5	21	*10	21	5	40	1	42	7	47	9	47	*27	39	30	31	14	21	16	5	24
Cape May C. H.	5	31	5	5	22	21	25	5	41	11	46	7	56	17	50	*27	45	30	37	3	24	16	15	24
<b>THE SEA COAST.</b>																								
Oceanic	4	31	5	5	21	4	27	5	38	2	46	7	54	17	51	30	50	30	35	31	22	16	13	24
Long Branch	3	31	4	5	22	1	24	5	37	3	46	7			52	*21	46	30	34	31	23	5	15	24
Asbury Park	2	31	4	5	23	*1	24	5	41	3	48	7	58	9	53	30	49	30	35	31	23	5	18	24
Atlantic City	7	31	6	5	24	21	29	4	42	1	51	7	61	9	54	30	49	30	36	31	25	5	20	3
Cape May City	8	31	6	5	24	21	30	5	42	1	52	7	60	9	52	29	46	30	40	13	30	5	22	*23

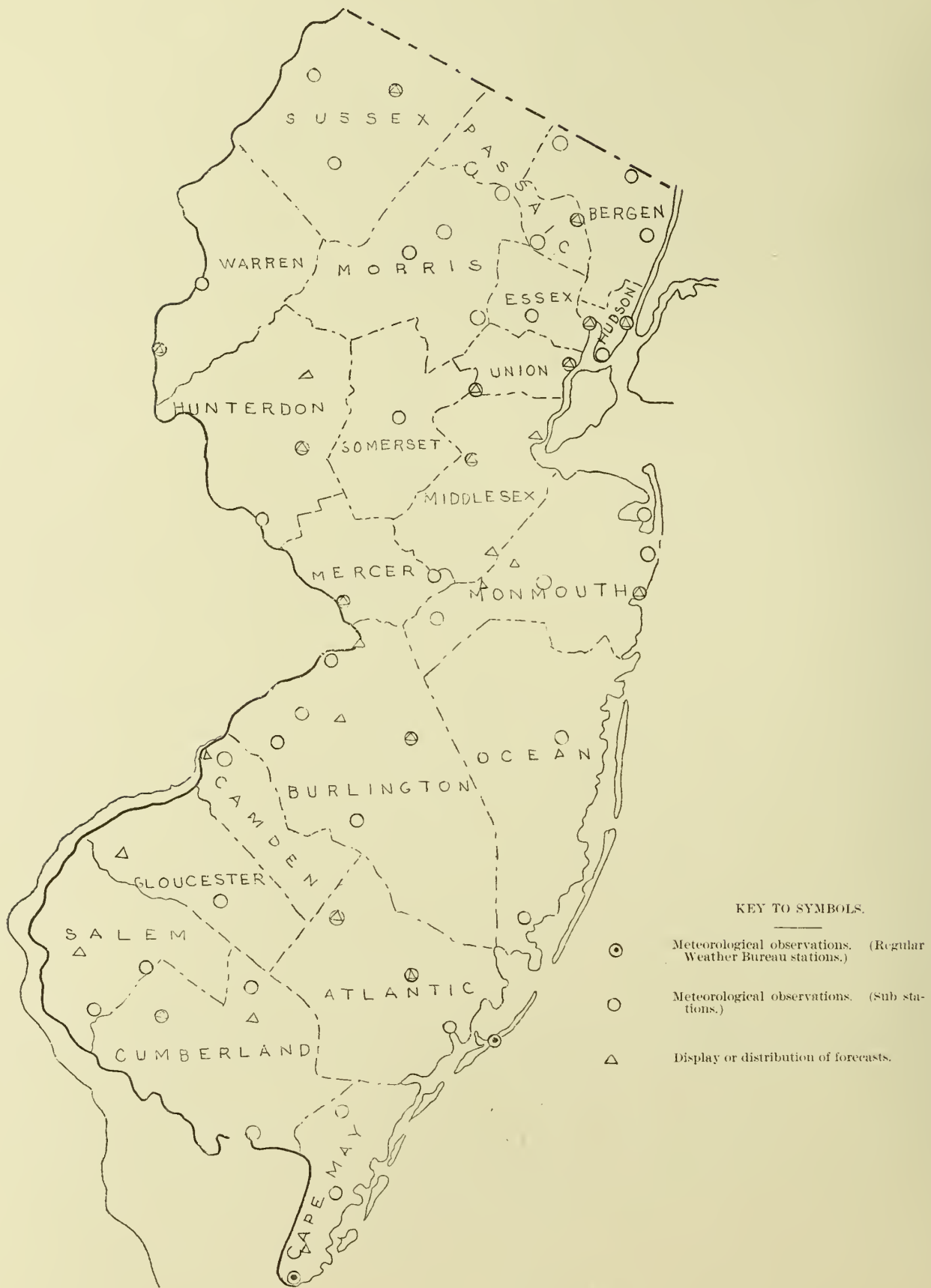
\*Occurred on more than one date.



## Monthly and Annual precipitation for the year 1908, with departures from the normal.

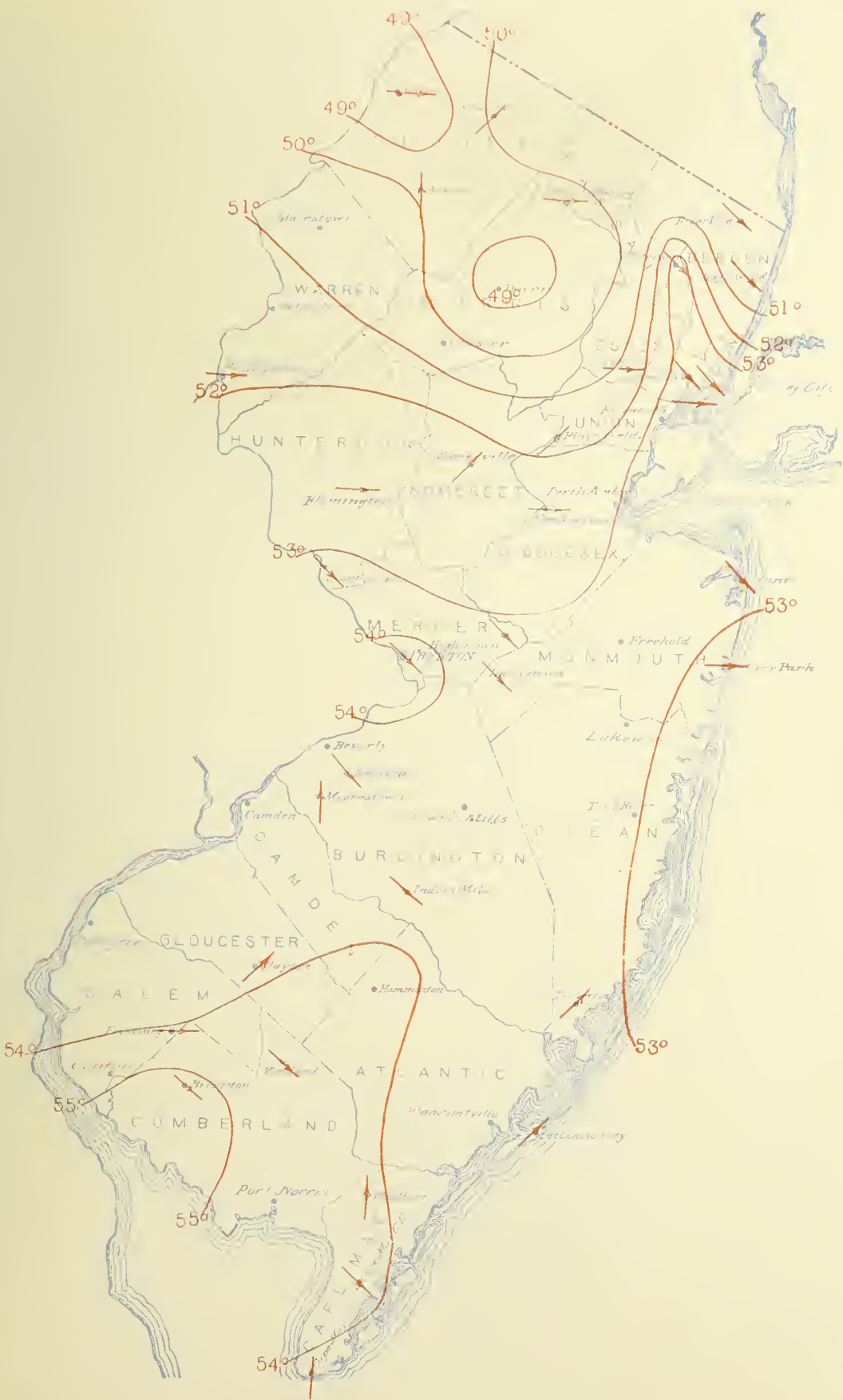
Stations.	January.		February.		March.		April.		May.		June.		July.		August.		September.		October.		November.		December.		Annual.	
	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.	Precipitation.	Departure.
THE HIGHLANDS AND KITTATINNY VALLEY.																										
Layton	2.20	-0.72	4.50	+2.07	2.97	-0.92	3.07	-0.03	5.73	3.01	2.25	-2.15	1.97	2.63	2.43	-1.72	2.30	-2.16	3.75	-0.31	1.17	-1.11	2.27	-2.50	34.70	-9.17
Sussex	2.91	-0.23	4.41	+1.21	3.09	-0.78	2.92	-0.24	6.41	2.94	2.29	-1.84	3.47	1.70	3.41	-0.93	1.16	-3.19	2.22	-1.58	0.55	-2.32	2.10	-1.58	34.94	-10.24
Culver's Lake	2.72	-0.45	4.88	+2.61	3.45	-0.33	3.60	+0.22	7.20	4.04	2.55	-1.82	3.14	1.41	3.66	-1.67	2.84	-2.39	4.25	-0.82	0.75	-1.66	2.78	-1.29	41.82	-4.97
Newton	3.15	-0.36	4.95	+1.26	3.12	-0.55	2.70	-0.35	7.10	3.01	2.90	-0.98	2.99	1.90	4.51	-0.16	2.30	-1.40	3.05	-0.81	0.76	-2.22	2.61	-1.18	40.14	-5.73
Charlotteburg	3.66	-0.11	7.44	+3.05	2.91	-1.41	3.86	-0.14	7.85	3.56	4.43	+0.17	4.67	0.27	3.98	-0.81	1.67	-3.62	3.64	-1.38	0.67	-2.82	3.02	-1.60	47.80	-5.39
Pompton Plains	4.33	.....	6.97	.....	2.80	.....	1.87	.....	10.31	.....	2.43	.....	7.01	.....	6.16	.....	1.39	.....	2.21	.....	0.88	.....	2.83	.....	49.19	.....
Boonton	4.07	-0.39	6.73	+2.29	2.63	-0.79	1.78	-0.19	8.85	2.61	2.31	-0.76	6.01	1.33	5.85	+1.56	1.51	-1.81	2.34	-1.01	1.20	-2.90	2.92	-0.63	46.26	+0.09
Dover	4.21	-0.29	7.40	+3.40	3.16	-0.77	3.14	-0.23	7.72	3.67	2.91	-1.28	6.91	1.33	5.10	-0.09	2.60	-2.01	4.21	-0.09	1.02	-2.76	3.15	-0.96	51.53	+0.28
Belvidere	3.35	-0.02	5.94	+2.07	3.21	-0.77	3.20	-0.07	7.52	3.55	2.08	-1.73	6.25	0.99	3.93	-0.91	1.96	-2.03	2.80	-1.10	0.82	-2.58	2.64	-1.43	43.70	-3.89
Phillipsburg	2.88	-0.76	5.37	+2.01	2.93	-0.51	2.57	-0.51	6.34	2.17	2.12	-1.61	4.48	0.41	3.78	-1.06	2.23	-1.54	2.88	-0.48	0.96	-2.37	2.62	-1.12	39.16	-6.19
THE RED SANDSTONE PLAIN.																										
Mahwah	3.77	.....	7.29	.....	4.04	.....	1.87	.....	10.19	.....	1.86	.....	4.60	.....	6.22	.....	1.42	.....	2.60	.....	0.62	.....	2.86	.....	47.34	.....
River Vale	.....	.....	6.40	+2.00	3.26	1.25	.....	.....	8.87	+4.66	2.52	1.28	6.01	+1.52	6.27	+1.81	1.15	-3.02	4.10	-0.09	0.40	-3.32	2.60	-1.48	.....	.....
Paterson	3.45	-0.71	6.73	+2.33	2.54	-2.07	3.19	-0.42	8.40	4.30	2.47	-1.24	4.53	0.23	7.22	+1.94	1.41	-2.71	1.64	-3.00	0.77	-2.60	3.12	-1.26	45.47	-5.67
Englewood	4.20	-0.07	5.93	+1.40	2.17	-2.14	1.82	-1.49	9.44	+5.66	1.63	-2.11	4.27	1.16	5.96	+1.03	1.69	-2.68	2.07	-2.56	0.89	-2.74	3.59	-0.73	43.66	-7.45
Little Falls	4.00	.....	6.86	.....	2.61	.....	1.82	.....	10.84	.....	2.32	.....	4.92	.....	7.15	.....	1.57	.....	1.86	.....	.....	.....	2.79	.....	47.61	.....
Morristown	4.08	.....	6.85	.....	2.48	.....	2.88	.....	7.32	.....	2.73	.....	5.37	.....	5.72	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
South Orange	4.20	-0.08	5.47	+1.42	2.74	1.13	2.84	-0.60	8.17	4.75	3.27	-0.36	4.33	-0.85	5.69	+0.30	1.52	-2.86	2.70	-1.08	0.94	-2.53	3.24	-0.63	45.11	-3.65
Chatham	4.47	.....	5.88	.....	3.28	.....	1.82	.....	8.07	.....	2.04	.....	3.84	.....	5.77	.....	2.14	.....	3.12	.....	1.17	.....	3.41	.....	45.61	.....
Newark	4.50	-0.76	3.98	-0.34	2.15	-1.81	2.52	-1.04	9.01	+5.09	4.17	+0.55	6.30	+1.51	7.74	+2.50	1.69	-2.13	2.10	-1.70	0.35	-3.25	3.15	-0.60	47.66	+0.22
New York, N. Y.	3.84	+0.05	5.36	+1.62	2.15	-1.95	1.82	-1.48	9.10	+5.92	1.70	-1.56	4.33	0.21	5.65	+1.12	1.60	-1.99	1.92	-1.79	0.75	-2.69	3.21	-0.24	41.43	-3.33
Jersey City	4.03	.....	5.44	.....	2.53	.....	2.20	.....	9.09	.....	1.50	.....	4.92	.....	5.63	.....	1.81	.....	1.07	.....	0.93	.....	3.43	.....	43.38	.....
Bayonne	3.74	+0.41	4.62	+0.89	2.58	-1.56	2.16	-1.27	9.23	+5.57	2.00	-1.62	3.45	-1.69	5.99	+1.16	1.99	-1.69	2.02	-2.52	0.97	-2.39	4.10	-0.55	42.85	-4.16
Bergen Point	4.37	-0.28	5.02	+2.04	3.06	-0.94	3.06	.....	9.99	+6.40	2.10	-1.73	3.31	1.77	6.61	+1.56	2.15	-2.52	2.53	-2.75	0.85	-2.53	3.91	-0.46	47.86	.....
Elizabeth	3.82	-0.34	4.04	-0.24	2.27	-2.09	2.23	-1.30	8.00	+4.14	2.36	-1.32	3.08	-2.39	4.96	+0.48	1.74	-2.48	2.25	-1.80	1.00	-2.52	3.61	-0.19	39.36	-10.05
Plainfield	4.29	-0.54	5.75	+1.71	3.58	-1.28	3.20	-0.73	7.40	+3.45	2.76	-1.29	5.10	-1.09	6.60	+1.50	2.12	-2.77	3.59	-0.59	1.09	-2.45	3.71	-0.92	48.59	-3.12
Somerville	4.28	-0.52	5.78	+1.95	3.63	-0.40	3.24	-0.66	7.20	+3.25	1.68	-2.32	5.16	+0.09	5.85	+1.04	2.14	-1.85	4.34	+0.89	1.12	-2.06	3.57	-0.19	47.99	+0.86
Flemington	3.75	+0.09	5.15	+1.72	3.58	-0.73	2.96	-0.42	9.02	+5.41	2.26	-1.52	5.10	-0.28	5.15	+0.19	3.04	-1.90	5.14	+0.95	0.86	-2.04	2.87	-1.12	48.88	+0.35
New Brunswick	4.22	-0.42	5.10	+1.47	3.13	-0.79	2.93	-0.80	6.44	+2.55	2.83	-0.98	4.23	-0.86	5.09	+0.02	1.98	-1.91	3.59	-0.04	0.53	-3.14	3.32	-0.40	43.39	-4.46
College Farm	.....	.....	.....	.....	.....	.....	3.31	-0.11	7.23	+3.36	2.34	-0.99	5.12	-1.27	5.00	-0.35	1.93	-2.11	3.67	-0.42	1.16	-2.17	3.40	-0.23	.....	.....
Rumyon	4.46	.....	4.00	.....	3.36	.....	2.03	.....	7.17	.....	2.74	.....	3.41	.....	4.48	.....	1.20	.....	2.05	.....	1.01	.....	3.47	.....	39.38	.....
Lambertville	3.66	-0.31	5.04	+1.76	3.53	-0.50	3.23	-0.12	9.40	+5.09	1.87	-2.57	3.11	-2.11	6.97	+2.44	1.96	-2.56	3.33	-0.55	1.11	-2.27	3.70	-0.15	46.91	-1.85
THE SOUTHERN INTERIOR.																										
Hightstown	3.52	+0.06	3.62	+0.42	3.63	+0.38	3.50	-0.49	7.18	+2.97	4.39	+0.61	5.69	+0.26	7.17	+2.81	1.62	-2.10	3.20	-0.85	1.04	-2.80	3.75	+0.15	48.31	+0.66
Freehold	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.98	+1.93	9.23	+4.77	1.43	-3.00	1.70	-1.89	.....	.....	3.91	+0.37	.....	.....
Trenton	4.30	+0.80	5.12	+1.66	4.92	+0.61	3.34	-0.24	6.80	+2.76	2.61	-1.31	5.05	-0.39	6.34	+0.80	2.60	-1.39	3.16	-0.66	0.80	-3.07	3.53	+0.01	48.57	-0.44
Imlaystown	3.73	+0.20	.....	.....	.....	.....	3.10	-0.21	7.67	+3.86	4.63	+0.74	4.81	-0.25	5.74	+1.08	1.71	-2.92	2.63	-1.58	1.11	-2.27	3.03	-0.53	.....	.....
Burlington	3.05	-0.49	4.22	+0.85	3.52	-0.51	3.57	+0.08	7.24	+3.06	2.90	-0.94	6.00	+0.99	4.86	+1.13	1.97	-1.94	2.68	-1.48	1.21	-2.20	3.93	-0.12	45.71	-2.94
Rancocas	3.28	-0.22	4.55	+0.90	3.39	-0.74	3.30	-0.28	6.28	+2.37	2.39	-1.44	5.93	+0.55	3.61	-1.49	1.89	-2.35	2.30	-1.81	1.05	-2.55	3.80	+0.10	41.77	-6.40
Brown's Mills	3.75	.....	4.58	.....	3.16	.....	3.12	.....	7.21	.....	3.12	.....	5.50	.....	4.89	.....	1.58	.....	.....	.....	.....	.....	.....	.....	.....	.....
Moorestown	3.91	+0.45	4.07	+0.48	3.61	-0.21	3.33	+0.20	7.39	+3.39	2.55	-1.31	6.09	+1.48	3.94	-0.87	1.82	-2.01	2.14	-1.59	1.04	-2.44	3.56	+0.01	43.45	-2.42
Philadelphia, Pa.	3.14	-0.27	3.21	-0.17	2.83	-0.62	2.35	-0.50	6.85	+3.65	2.41	-0.89	4.54	+0.21	5.41	+0.80	1.79	-1.59	1.81	-1.2	0.67	-2.39	3.12	+0.08	38.13	-3.14
Toms River	5.22	-1.72	3.93	-1.43	3.65	-0.74	.....	.....	6.16	.....	2.09	.....	4.95	.....	5.10	.....	1.97	.....	1.96	.....	1.26	.....	.....	.....	.....	.....
Haddonfield	.....	.....	3.21	.....	3.31	.....	3.18	.....	6.16	.....	2.09	.....	4.95	.....	5.10	.....	1.97	.....	1.96	.....	1.26	.....	.....	.....	.....	.....
Indian Mills	4.12	+0.09	4.27	+0.41	2.66	-1.70	2.68	-0.67	7.14	+4.22	2.79	-1.50	6.58	+2.54	6.00	.....	2.08	-2.91	2.76	-1.65	1.29	-1.46	4.59	.....	47.05	.....
Clayton	3.41	+0.36	5.09	+1.37	2.35	-1.47	2.57	-0.74	6.29	+3.23	3.53	-0.66	8.12	+3.36	4.87	-1.08	2.30	-1.61	2.21	-1.33	1.20	-2.05	4.36	+0.39	46.30	+0.37
Hammonton	4.52	+1.28	3.78	-0.14	2.79	-0.93	2.43	-1.27	6.10	+2.23	1.62	-1.37	6.53	+1.58	3.76	.....	2.41	.....	1.62	-2.01	0.99	-3.00	5.09	.....	41.04	.....
Tuckerton	3.81	-0.54	3.61	-0.05	3.16	-1.36	2.40	-1.33	5.50	+2.18	0.97	-3.07	2.94	-0.72	4.46	.....	2.81	-0.84	2.62	-1.91	1.09	-1				

# Observation and Forecast Display Stations.





Annual Mean Isotherms and Prevailing Direction of Wind, 1908.



## COOPERATIVE OBSERVERS.

Station.	Observer.	Station.	Observer.	Station.	Observer.
Asbury Park.....	B. H. Obert.	Friesburg.....	H. C. Perry.	Northfield.....	Wm. L. Flick.
Bayonne.....	John H. Eadie.	Haddonfield.....	C. F. Richardson.	Oceanie.....	Prof. C. E. Dietz.
Belvidere.....	Samuel J. Hixson.	Hammononton.....	Orville Bassett.	Paterson.....	Heber A. Probert.
Bergen Point.....	Dr. W. H. Mitchell.	Hightstown.....	Ernst Wenger.	Phillipsburg.....	D. W. Smith.
Bridgeton.....	Henry A. Jorden.	Imlaystown.....	F. C. Price, M. D.	Plainfield.....	John Neagle.
*Brown's Mills.....	M. W. Hargrove.	Indian Mills.....	J. M. Armstrong.	Pleasantville.....	L. Van Gilder.
Burlington.....	D. S. B. McCoy.	Jersey City.....	S. K. Pearson, Jr.	Port Norris.....	J. H. Barraclough.
Canton.....	John H. Maskell.	Lakewood.....	Prof. C. B. Starr.	Rancocas.....	Spencer Haines.
Cape May C. H.....	L. T. Garretson.	Lambertville.....	Wm. R. Bowne.	River Vale.....	G. S. M. Holdrum.
Charlotteburg.....	George S. Briggs.	Layton.....	Warren C. Hursh.	Runyon.....	J. H. Cottrell.
Chayton.....	W. T. Farley.	Long Branch.....	B. B. Bobbitt.	Somerville.....	Peter Harcastle.
Culver's Lake.....	B. E. Riker.	Moorestown.....	John C. Beaus.	South Orange.....	W. J. Chandler, M. D.
Dover.....	W. C. Harris.	† Morristown.....	C. Wigley.	Sussex.....	W. H. Seeley.
Egg Harbor City.....	Chas. Saalman.	Newark.....	Wm. Wiener.	*Toms River.....	F. G. Bunnell.
Elizabeth.....	W. M. Oliver.	New Brunswick.....	Wm. T. Woerner.	Trenton.....	E. R. Cook.
Englewood.....	Wm. C. Tucker.	New Brunswick (Col- lege Farm).....	G. B. Thrasher.	Tuckerton.....	F. R. Austin.
Flemington.....	H. E. Deats.	Newton.....	B. H. Kienbaum.	Vineland.....	Alfred Chalmers.
Freehold.....	Frank T. Cooper.			Woodbine.....	Prof. R. D. Maltby.

\* Discontinued November 30.

† Discontinued December 31.

## FORECAST DISPLAY STATIONS AND DISTRIBUTING CENTERS.

Station.	Displayman.	Station.	Displayman.	Station.	Displayman.
WEATHER AND TEM- PERATURE FLAGS.		Pemberton.....	T. Rudd.	Hammononton (340).....	Hammononton Telephone & Tele- graph Co.
Asbury Park.....	C. A. Toland.	Port Monmouth.....	W. M. Seeley.	Jersey City (400).....	Hudson Telephone Co.
Atlantic City.....	Beach Surgeon.	Port Norris.....	J. H. Barraclough.	Lebanon (362).....	Lebanon Telephone Co.
Do.....	Seaside Yacht Club.	Toms River.....	J. Holman.	Merchantville (47).....	Keystone Telephone Co.
Bridgeton.....	H. A. Jorden.	Vincentown.....	M. L. Haines.	Millville (1881).....	Interstate Telephone & Tele- graph Co.
Cape May.....	Local Office U. S. Weather Bu- reau.	DISTRIBUTING CENTERS.		Mount Holly (640).....	Interstate Telephone & Tele- graph Co.
Cape May Point.....	U. S. L. S. Service.	Atlantic City (165).....	Local Office, U. S. Weather Bu- reau.	Newark (1400).....	Newark Telephone Co.
Flemington.....	H. E. Deats.	Atlantic City (6569).....	Delaware & Atlantic Telegraph & Telephone Co.	Newark (91).....	Newark High School.
Jamesburg.....	J. L. Suydam.	Atlantic City (2530).....	Atlantic Coast Telephone Co.	New Brunswick (181).....	Postmaster.
Newark.....	Wm. Wiener, Newark High School.	Bordertown (200).....	Bordertown Telephone & Tele- graph Co.	New York, N. Y. (418).....	Local Office U. S. Weather Bu- reau.
SPECIAL WARNINGS ONLY.		Brown's Mills (325).....	Farmers Telephone Co.	Paterson (1100).....	Paterson, Passaic & Suburban Telephone Co.
Atco.....	A. J. Day.	Camden (1817).....	Keystone Telephone Co.	Perth Amboy (200).....	Hudson & Middlesex Telephone Co.
Atsion.....	Postmaster.	Cape May (281).....	Keystone Telephone Co.	Philadelphia, Pa. (189).....	Local Office U. S. Weather Bu- reau.
Bayonne.....	Bayonne Herald.	Cape May (62).....	Local Office U. S. Weather Bu- reau.	Phillipsburg (81).....	Postmaster.
Belle Plain.....	E. H. Durrell.	Collingswood (40).....	Keystone Telephone Co.	Plainfield (99).....	John Neagle.
Ellwood.....	Postmaster.	Dudley (92).....	Keystone Telephone Co.	Salem (150).....	Interstate Telephone & Tele- graph Co.
Farmingdale.....	A. M. T. Flandreau.	Egg Harbor City (350).....	Egg Harbor City Telephone Co.	Sussex (350).....	Farmers Union Telephone Co.
Freehold.....	J. A. Yard.	Elizabeth (400).....	Elizabeth Telephone Co.	Swedesboro (1000).....	Peoples Rural Telephone Co.
Hackettstown.....	W. F. Shields.	Englishtown (75).....	Hudson & Middlesex Telephone Citizens Local Telephone Co.	Trenton (3500).....	Interstate Telephone & Tele- graph Co.
Jersey City.....	Gen. Supt. C. R. R. of N. J.	Erma (94).....	A. B. Reading Telephone System.	Vincentown (60).....	Interstate Telephone & Tele- graph Co.
Laurel Springs.....	E. Z. Collings.	Flemington (200).....	Merchants & Farmers Telephone & Telegraph Co.	Westville (16).....	Keystone Telephone Co.
Mays Landing.....	A. D. Makepeace.	Flemington (500).....	Keystone Telephone Co.	Woodbury (165).....	Keystone Telephone Co.
Medford.....	Evans & Wills.	Gloucester (104).....			
New Egypt.....	F. S. Gaskill.	Haddonfield (55).....			
New Lisbon.....	J. J. White.				

Figures following the names of distributing centers indicate the number of forecasts distributed by mail or telephone.

## COMPARATIVE STATE ANNUAL DATA.

Year.	Temperature.			Average precipitation.	Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.			Mean.	Highest.	Lowest.	
1887.....	51.1	102	-4	47.66	1898.....	53.2	107	-15	52.35
1888.....	50.0	104	-12	52.20	1899.....	52.1	103	-21	45.84
1889.....	52.8	96	-3	63.33	1900.....	53.8	104	-9	42.71
1890.....	53.2	101	0	49.34	1901.....	51.4	107	-8	51.80
1891.....	53.2	102	1	47.98	1902.....	51.8	100	-11	59.44
1892.....	51.4	105	-6	42.04	1903.....	51.7	100	-16	56.25
1893.....	50.8	103	-21	47.90	1904.....	49.3	100	-34	37.41
1894.....	53.0	106	-11	47.37	1905.....	51.3	102	-18	42.06
1895.....	51.7	109	-12	37.29	1906.....	52.8	98	-15	46.38
1896.....	51.7	105	-15	42.51	1907.....	50.4	96	-22	51.65
1897.....	52.0	102	-6	51.72	1908.....	52.6	106	-17	42.58

Figures following the names of distributing centers indicate the number of forecasts distributed by mail or telephone.



U. S. DEPARTMENT OF AGRICULTURE

REPORT FOR JANUARY, 1900.

NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

UNDER DIRECTION OF

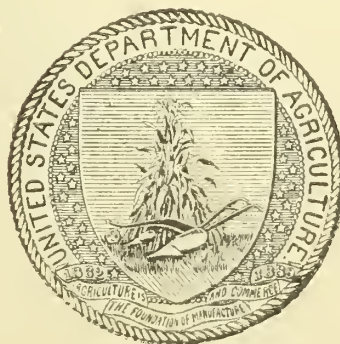
WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



ALBANY, N. Y.

WEATHER BUREAU OFFICE

FEBRUARY 25, 1900

# Monthly Mean Isotherms and Prevailing Winds, January, 1909.





U. S. DEPARTMENT OF AGRICULTURE,  
**CLIMATOLOGICAL SERVICE**  
 OF THE  
**WEATHER BUREAU.**

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,  
 LEVI A. JUDKINS, Section Director.

VOL. XXII. ATLANTIC CITY, N. J., JANUARY, 1909. No. 1

**GENERAL SUMMARY.**

January, 1909, was characterized by generally mild weather, the mean temperature for the State being several degrees above the normal. Altho several well-defined cold waves occurred, they were of short duration and not as severe as usual. Temperatures below zero were recorded on but one date (except at a single station), and were confined for the most part to the extreme northern counties. The precipitation was below the normal, but was well distributed geographically and thru the month. Excessive cloudiness was a feature of the month, the sunshine averaging only about 45 per cent of the possible. There were about ten days with little or no sunshine, and comparatively few with the possible amount. Fog occurred at frequent intervals during the month, and was persistent during the first half of the third decade.

The mean temperature exceeded the normal in all parts of the State, the local departures from the normal being generally quite decided. The most pronounced excesses in daily mean temperature, ranging from  $4.5^{\circ}$  to  $5.5^{\circ}$ , were reported from scattered stations in the southern counties. The principal warm periods of the month extended from the 4th to the 6th and from the 21st to the 25th, the monthly maximum temperatures occurring in one or the other of these periods at practically all stations. Temperature fluctuations during the second decade were less marked than at other times during the month, several brief periods with quite uniform temperatures for the season occurring during this decade. The most prolonged cold spell of the month extended from the 16th to the 19th, inclusive. The monthly minimum temperatures, ranging from about  $10^{\circ}$ , on the coast, to  $-12^{\circ}$ , in the north-western part of Sussex County, were reported on the 19th from all stations. The month closed with cold weather prevailing.

The local departures of monthly precipitation from the normal were unimportant as a rule. Slight excesses occurred over a few, restricted areas, but for the most part there was a moderate deficiency thruout the State, the deficiencies ranging from 1 inch to about 1.50 inches over limited portions of Burlington, Cumberland, Essex, Hunterdon and Union counties. Moderately heavy rains were received in the middle of the first decade, the precipitation during the remainder of the month being frequently in the form of snow. There were no

marked snow depths on the ground at any time during the month, altho most of the interior was covered with sufficient depths for sleighing for a period of about one week following the 15th. At the close of the month the ground was again covered to a depth of several inches, except on the southern coast.

The harvesting of ice was delayed by the prevailing weather conditions.

TEMPERATURE.

The monthly mean,  $33.2^{\circ}$ , was  $3.2^{\circ}$  above the normal. The mean maximum was  $41.6^{\circ}$ , the mean minimum  $24.8^{\circ}$ , and the mean daily range  $16.8^{\circ}$ .

The means for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley,  $28.8^{\circ}$ ,  $+2.8^{\circ}$ ; Red Sand Stone Plain,  $32.0^{\circ}$ ,  $+2.7^{\circ}$ ; Southern Interior,  $35.6^{\circ}$ ,  $+3.7^{\circ}$ ; Sea Coast,  $36.3^{\circ}$ ,  $+3.5^{\circ}$ .

The highest monthly mean was  $38.3^{\circ}$ , at Cape May Court House, and the lowest,  $27.6^{\circ}$ , at Layton, the range of monthly mean temperature being  $10.7^{\circ}$ .

The highest temperature,  $69^{\circ}$ , occurred at Indian Mills, on the 23d, and the lowest,  $-12^{\circ}$ , at Layton, on the 19th, the range within the State being  $81^{\circ}$ .

The greatest local monthly range,  $70^{\circ}$ , occurred at Charlotteburg, and the least,  $45^{\circ}$ , at Oceanie.

The greatest daily range,  $41^{\circ}$ , occurred at Newton, on the 20th, and at Charlotteburg, on the 22d.

PRECIPITATION.

The average, 3.18 inches, was 0.42 inch below the normal, the averages for the various districts, with the departures from the normal, being as follows: The Highlands and Kittatinny Valley, 3.51 inches,  $-0.09$  inch; Red Sand Stone Plain, 3.20 inches,  $-0.79$  inch; Southern Interior, 2.95 inches,  $-0.39$  inch; Sea Coast, 3.42 inches,  $-0.18$  inch.

The greatest monthly amount, 4.13 inches, occurred at Belvidere, and the least, 2.18 inches, at Canton.

The greatest 24-hour amount, 2.04 inches, occurred at Boonton, on the 5-6th.

No excessive precipitation occurred.

The average snowfall, unmelted, was 7.5 inches, the averages for the various districts being as follows: The Highlands and Kittatinny Valley, 8.0 inches; Red Sand Stone Plain, 9.3 inches; Southern Interior, 6.0 inches; Sea Coast, 6.4 inches. The greatest monthly amount was 15.0 inches, at River Vale.

Measurable precipitation occurred on an average of 12 days.

SUNSHINE AND CLOUDINESS.

The average number of clear days was 8; partly cloudy, 9; cloudy, 14. The following percentages of the possible amount of sunshine were reported: Atlantic City, 45; Hightstown, 44; Jersey City, 41.

## WIND.

Northwest winds prevailed. The highest velocities reported from regular Weather Bureau stations, for 5-minute periods, were as follows: Atlantic City, 30 miles, from the southeast, on the 17th; Cape May, 36 miles, from the northeast, on the 17th; New York, N. Y., 57 miles, from the northwest, on the 28th; Philadelphia, Pa., 38 miles, from the northwest, on the 28th.

## MISCELLANEOUS PHENOMENA.

*Meteor.*—New Brunswick, 31st.

*Lightning.*—Culver's Lake, Dover, 24th.

*Thunderstorms.*—Burlington, Moorestown, 24th.

*Halos, solar.*—Moorestown, 6th; Oceanic, 27th; Rancocas, 19th.

*Halos, lunar.*—Atlantic City, 30th; Burlington, Hammonton, Jersey City, Moorestown, 31st; Indian Mills, 13th, 16th; Oceanic, 25th.

*Fog (dates).*—4th, 5th, 6th, 9th, 10th, 12th, 14th, 15th, 17th, 21st to 25th, 29th, 30th.

*Sleet.*—Asbury Park, 13th, 16th, 29th; Bridgeton, Dover, Lambertville, Newark, Somerville, 17th; Burlington, Friesburg, 13th, 14th; Canton, Rancocas, 13th, 29th; Cape May, Clayton, Hammonton, Vineland, 13th; Culver's Lake, 12th, 14th, 17th; Haddonfield, 13th, 14th, 29th; Indian Mills, Oceanic, Plainfield, Port Norris, 14th; Jersey City, Paterson, 14th, 17th, 29th; Moorestown, 13th, 14th, 17th, 29th; Newton, 14th, 17th, 29th, 30th; Phillipsburg, 14th, 16th, 17th, 29th; Somerville, 14th, 17th, 30th.

## DELAYED REPORTS.

Englewood, September, 1908.—Temperature: Mean, 62.7°; departure from the normal, -1.5°; highest, 80°, 11th; lowest 38°, 30th; greatest daily range, 29°. Total precipitation, 1.69 inches; departure from the normal, -2.68 inches; greatest in 24 hours, 0.96 inch. Number of rainy days, 3; clear, 11; partly cloudy, 3; cloudy, 16. Prevailing wind, northwest.

Englewood, October, 1908.—Temperature: Mean, 54.8°; departure from the normal, +2.1°; highest, 83°, 17th; lowest, 34°, 4th; greatest daily range, 32°. Total precipitation, 2.07 inches; departure from the normal, -2.56 inches; greatest in 24 hours, 0.92 inch. Number of rainy days 9; clear, 14; partly cloudy, 5; cloudy, 12. Prevailing wind, northwest.

Rancocas, December, 1908.—Total precipitation, 3.80 inches; departure from the normal, +0.10 inch; greatest in 24 hours, 2.03 inches; total snowfall, unmelted, 8.2 inches. Number of rainy days, 11; clear, 11; partly cloudy, 5; cloudy, 15. Prevailing wind, northwest.

Pleasantville, December, 1908.—Total precipitation, 4.92 inches; departure from the normal +0.52 inch; greatest in 24 hours, 2.32 inches; total snowfall, 10.0 inches. Number of rainy days, 13; clear, 10; partly cloudy, 10; cloudy, 11.

Woodbine, December, 1908.—Temperature: Mean, 35.6°; departure from the normal, +0.2°; highest, 68°, 1st; lowest, 5°, 24th; greatest daily range, 32°. Total precipitation, 4.39 inches; departure from the normal, +0.59 inch; greatest in 24 hours, 1.86 inches; total snowfall, 5.5 inches. Number of rainy days, 11; clear, 9; partly cloudy, 11; cloudy, 11. Prevailing wind, west.

Long Branch, December, 1908.—Temperature: Mean, 37.1; highest, 69°, 1st; lowest, 15°, 24th; greatest daily range, 36°. Total precipitation, 4.24 inches; greatest in 24 hours 1.98 inches; total snowfall, 8.0 inches. Number rainy days, 11; clear, 13; partly cloudy, 5; cloudy, 13. Prevailing wind, northwest.

## CORRECTIONS.

November, 1908.—Page 85: Jersey City; mean temperature, 44.4°, should be 44.3°. Somerville; mean temperature, 41.1°, should be 41.6°; departure from the normal, -1.3°, should be -0.8°. Bayonne; departure from the normal precipitation, -2.36 inches, should be -2.39 inches. Inlaystown; departure from the normal precipitation, -2.37 inches, should be -2.27 inches. Cape May C. H.; departure from the normal precipitation, -1.54 inches, should be 1.55 inches. Page 86: Jersey City; minimum temperature 27th, 49°, should be 46°. mean minimum, 37.5°; should be 37.4°. Somerville; mean maximum temperature, 50.1°, should be 51.0°.

## HIGHEST MONTHLY TEMPERATURES FOR NEW JERSEY, 1885-1908, INCLUSIVE.

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1885	67	54	66	88	.....	.....	100	95	93	82	76	60	100
1886	60	64	70	86	.....	91	98	96	95	88	73	60	98
1887	67	69	61	87	94	97	102	94	90	89	72	62	102
1888	59	60	72	92	90	99	95	98	84	73	77	65	99
1889	60	53	67	83	94	91	95	91	90	82	64	71	95
1890	58	76	78	86	87	95	101	99	91	81	74	56	101
1891	59	71	68	88	93	102	95	100	95	92	70	71	102
1892	67	58	64	87	90	98	105	99	90	85	71	68	105
1893	54	63	68	82	95	103	102	98	90	85	70	70	103
1894	61	62	83	88	93	102	106	97	97	87	76	66	106
1895	64	57	72	89	102	103	99	102	103	83	80	70	103
1896	61	62	69	98	98	96	98	105	95	82	78	64	105
1897	64	59	77	89	87	95	102	91	99	95	74	69	102
1898	64	65	77	81	93	100	107	98	100	88	70	66	107
1899	60	60	73	88	94	103	98	99	93	86	71	69	103
1900	64	69	67	82	98	97	104	104	98	92	79	64	104
1901	63	52	75	89	90	103	107	98	94	82	69	68	107
1902	58	62	77	93	95	99	100	93	93	80	80	62	100
1903	57	70	79	92	98	92	100	98	92	86	79	56	100
1904	58	65	72	85	97	100	98	92	93	89	69	60	100
1905	60	53	87	84	89	96	102	95	90	90	70	61	102
1906	74	64	62	87	94	98	94	97	94	80	70	70	98
1907	71	55	88	83	91	96	96	96	92	80	68	70	96
1908	60	65	89	93	95	99	106	103	90	92	72	72	106
Max.	78	76	89	98	102	103	107	105	109	95	80	72	109

## COMPARATIVE STATE DATA FOR JANUARY.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1885	31.1	67	0	3.78
1886	26.8	60	-10	4.30
1887	28.4	67	-6	3.86
1888	25.4	59	-12	4.77
1889	36.2	60	8	5.68
1890	41.3	78	12	2.29
1891	34.2	59	10	6.57
1892	29.9	67	-6	5.13
1893	21.6	54	-21	3.04
1894	34.2	61	-4	2.34
1895	28.1	64	-4	4.66
1896	28.6	61	-7	1.66
1897	29.0	64	-6	2.80
1898	32.6	64	-10	4.20
1899	30.1	60	-21	4.01
1900	32.4	64	-5	3.85
1901	30.4	63	-6	2.52
1902	28.4	58	-5	3.28
1903	30.4	57	-5	3.90
1904	23.3	58	-34	3.09
1905	27.0	60	-16	4.18
1906	36.5	74	-5	2.85
1907	31.8	71	-19	3.50
1908	31.8	60	-6	3.77
1909	33.2	69	-12	3.18



## CLIMATOLOGICAL DATA FOR JANUARY, 1909.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit						Precipitation, in inches.				Sky.				Prevailing direction of wind.	Observers.	
				Month.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.			Number cloudy days.
THE HIGHLANDS AND KITTATINNY VALLEY.																				
Layton	Sussex	550	10	27.6	3.8	52	25	-12	19	30	2.41	-0.60	0.75	8.5	14	7	11	13	nw.	Warren C. Hursh.
Sussex	do	442	15	28.9	2.8	52	25	6	19	33	3.76	0.55	1.06	10.0	12	8	10	13	nw.	Prof. W. H. Seeley.
Culver's Lake	do	848	8								3.09	-0.09	0.83	8.5	15	7	11	13	nw.	B. E. Riker.
Newton	do	678	26	28.8	3.4	55	23	9	19	41	3.84	0.33	1.82	9.0	12	7	10	14	nw.	B. H. Kienbaum.
Charlotteburg (b)	Passaic	719	17	29.6	2.7	64	22	6	19	41	3.41	-0.36	1.85	7.0	13	8	9	14	w.	G. S. Briggs.
Pompton Plains	Morris	195	7								3.01	-0.46	1.94	6.0	12				n.	M. S. Taylor.
Boonton	do	413	18								3.33	-0.75	2.04	6.5	14				nw.	F. G. McIntosh.
Dover	do	575	25	29.0	2.5	60	22	3	19	34	3.75	-0.75	1.83	7.6	11	4	13	14		William C. Harris.
Belvidere	Warren	289	19	28.2	1.5	54	25	5	19	38	4.13	0.70	1.33	8.0	12	8	8	15		Samuel J. Hixson.
Phillipsburg	do	196	7	29.6	3.0	54	5	4	19	30	3.77	0.13	1.04	9.2	14	8	10	13	nw.	D. W. Smith.
THE RED SAND-STONE PLAIN.																				
Mahwah	Bergen		7								3.63	-0.36	1.90	6.8	13				uw.	M. F. Brooks.
River Vale	do	70	18	29.2	1.3	62	25	-4	19	36	3.40	-0.55		15.0	16	7	12	12	nw.	G. S. M. Holdrum.
Paterson	Passaic	110	33	32.0	2.8	54	25	2	19	30	3.18	-0.94	1.22	8.4	14	4	14	13	nw.	H. A. Probert.
Englewood	Bergen	135	23								2.62	-1.56	1.44	8.5	11	4	11	16	nw.	William C. Tucker.
Little Falls	Passaic	175	7								3.21	0.69	1.42	8.6	14				w.	F. Fearus.
South Orange	Essex	200	40	30.5	1.9	59	6	2	19	28	2.62	-1.56	1.44	8.5	11	4	11	16	ne.	W. J. Chandler, M. D.
Chatham	Morris	234	7								3.49	-0.62	1.55	9.2	16				ne.	M. A. Butler.
Newark	Essex	140	65	32.7	3.7	58	22	1	19	30	2.93	-0.84	1.39	10.1	10	7	8	16	nw.	Wm. Wiener.
New York, N. Y.	New York	314	39	33.2	3.0	57	5	7	19	27	3.33	-0.46	1.23	9.5	11	6	10	15	uw.	U. S. Weather Bureau.
Jersey City	Hudson	15	4	33.0		54	*5	4	19	21	3.74		1.45	11.0	12	6	10	15	ne.	Samuel K. Pearson, jr.
Bayonne	do	50	19	32.5	2.8	57	5	3	19	23	3.22	-0.14	1.23	8.6	12	10	5	16	ne.	John H. Eadie.
Bergen Point	do	37	12																	Dr. W. H. Mitchell.
Elizabeth	Union	33	30	33.2	3.3	56	5	1	19	24	2.77	-1.38		10.5	12	9	9	13	ne.	W. M. Oliver.
Plainfield	do	100	22	31.6	2.9	57	5	0	19	34	3.38	-0.77	1.26	9.9	13	8	9	14		John Neagle.
Somerville	Somerset	76	30	31.9	3.7	-6	*5	0	19	32	3.41	0.43	1.40	9.0	13	10	4	17	uw.	Peter Hardcastle.
Flemington	Hunterdon	187	12	31.8	2.6	55	5	-3	19	35	3.05	-0.87	0.91	9.0	15	10	5	16		H. E. Deats.
New Brunswick	Middlesex	61	56	32.4	2.0	57	5	0	19	31					6	8	17		w.	Wm. T. Woerner.
College Farm	do	100	14			57	5	-1	19	30	3.17	-0.12	0.88	8.4	13	7	11	13	uw.	Geo. B. Thrasher.
Rumyon	do	18	9								3.07	0.42	1.23	7.9	12					J. H. Cottrell.
Lambertville	Hunterdon	95	23	33.0	2.9	57	5	0	19	30	2.86	-1.09	0.83	7.5	12	10	7	14	uw.	William R. Bowne.
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	18	33.8	4.5	57	5	3	19	30	3.18	-0.28	1.36	11.0	9	8	8	15	nw.	Ernst Wenger.
Freehold	Monmouth	187	26																	F. T. Cooper.
Trenton	Mercer	60	40	35.4	2.6	60	*5	1	19	29	3.28	0.22	0.96	8.0	8	8	10	13		E. R. Cook.
Imlaystown	Monmouth	106	23	33.2	1.6	58	*4	4	19	32	2.92	0.61	1.09	9.1	11	7	10	14		F. C. Price, M. D.
Burlington	Burlington	12	17								3.05	-0.11	0.94	7.2	13				nw.	D. S. B. McCoy.
Rancocas	do	68	23			60	5	5	19		2.25	-1.25	1.05	7.1	12	9	6	16	uw.	Spencer Haines.
Moorestown	do	71	45	34.4	4.3	59	5	5	19	26	2.91	-0.55	1.00	9.2	14	7	8	16	nw.	John C. Beas.
Philadelphia, Pa.	Philadelphia	117	39	35.6	3.8	58	5	9	19	27	2.52	0.89	0.95	4.9	14	8	10	13	uw.	U. S. Weather Bureau.
Haddonfield	Camden	75	1	34.4		58	5	5	19	28	2.98		1.02	6.9	14	7	12	12	nw.	C. F. Richardson.
Indian Mills	Burlington	76	9	36.0	4.7	62	23	6	19	40	3.66	0.53	1.26	5.0	14	10	8	13	nw.	James Armstrong.
Clayton	Gloucester	126	13	35.0	3.5	63	23	6	19	33	2.87	0.18	1.01	7.0	12	8	8	15	uw.	Wm. T. Farley.
Hammononton	Atlantic	80	11								3.09	0.15	1.14	4.0	11	6	10	15		Orville Bassett.
Tuckerton	Ocean	23	12	36.4	4.5	68	24	7	19	34	3.92	0.05	0.97	7.3	12	9	10	12		F. R. Austin.
Egg Harbor City	Atlantic	63	18								2.97	-0.67	1.00		11				nw.	Charles Sallmann.
Friesburg	Salem	100	17	35.4	2.8	62	23	6	19	32	2.56	-0.38	0.85	6.5	12	9	8	14	w.	H. C. Perry.
Vinceland	Cumberland	118	42	36.8	5.0	66	23	7	19	35	2.53	-1.53	0.71	2.8	13	8	10	13	nw.	Alfred Chalmers.
Canton	Salem	24	8								2.18	-0.37	0.74	5.7	10	10	7	14		J. H. Maskell.
Bridgeton	Cumberland	30	34	36.5	-2.5	65	23	8	19	35	2.94	-0.36	1.00	5.0	10	8	9	14	ne.	Henry A. Jorden.
Pleasantville	Atlantic	26	11																	L. Van Gilder.
Northfield	do	1	1								3.06		0.65	3.6	11					Wm. L. Flick.
Port Norris	Cumberland	8	1								2.56		0.78	3.0	12					J. H. Barraclough.
Woodbine	Cape May	43	18	37.6	5.5	65	24	8	19	33	3.48	0.44	1.40	2.0	8	10	8	13	w.	R. D. Maltby.
Cape May C. H.	do	19	22	38.3	4.0	67	24	9	19	28	2.59	-0.71	0.59	3.5	11	9	8	14	uw.	L. T. Garretson.
THE SEA COAST.																				
Oceanic	Monmouth	16	23	35.0	2.7	56	*5	11	19	28	3.63	0.35	1.48	7.5	13	6	8	17	nw.	Prof. C. E. Dietz.
Long Branch	do	30	1																	B. B. Bobbitt.
Asbury Park	do	22	21	35.4	3.3	56	*11	9	19	28	3.96	0.32	1.85	0.5	10	7	9	15	w.	B. H. Obert.
Atlantic City	Atlantic	16	36	37.1	4.6	64	24	11	19	26	3.29	-0.11	1.12	4.5	13	7	6	18	nw.	Section Center.
Cape May City	Cape May	17	25	37.5	3.4	63	24	10	19	26	2.79	-0.58	0.73	4.0	12	7	12	12	nw.	U. S. Weather Bureau.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observations.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\*Occurred on more than one date.

†Report not received in season to be considered in averages.

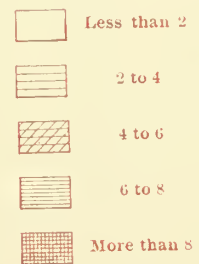




# Total Monthly Precipitation, January, 1909.



SCALE OF SHADES—INCHES



## DAILY PRECIPITATION FOR JANUARY, 1909.

Stations.	Day of month.																															Total.
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	
THE HIGHLANDS AND KITTA-TINNY VALLEY.																																
Layton			.02	*	.75	.45						.21	*	.30		*	.30						.05	.05	.03			*	.25		2.41	
Sussex			T.	.16	1.06	.54				T.	T.	.20	*	.30		*	.95						.05	.10				*	.40		3.76	
Cutler's Lake		T.	.01	.17	.83	.04						.11	*	.42		.01	.48						.01	.02	T.	.02		.04	.32		3.60	
Newton				.07	1.82							.12	*	.53	.04	*	.74							.04	.05			*	.43		3.84	
Charlotteburg			*	.14	*	1.85						.08	*	.11	.60	*	.31							.15				*	.27		3.41	
Pompton Plains			*	.02	.18	1.94					T.	.03		.40	.22	*	.60							.15				*	.17		3.41	
Boonton				.02	.12	2.04					T.	.04	T.	.07	.22	.24	*	.24					*	.08	.02			*	.22		3.33	
Dover				*	1.83						.04		.30	.45	*	.57							*	.11				*	.24		3.33	
Belvidere				.07	1.33	.60						.05	*	.69		*	.89							.08	.06		T.	.11	.23		3.75	
Phillipsburg			T.	.09	1.64	.03					T.	.07	.30	.38		.34	.49						.04	.02	.02		.01	.22	.12		3.77	
THE RED SAND STONE PLAIN.																																
Mahwah			*	.07	.10	1.00				T.		*	.27	.38		*	.37	T.					.18	.04				*	.32		3.61	
River Vale			*	.15	.60	.20					.15	.10	.08	.60	.04	*	.30						.03	.45				*	.60		3.40	
Paterson		T.	*	.04	1.22	.28					.01		T.	*	.56	.69	*	.54					.02	.01				.10	.31		3.18	
Englewood																																
Little Falls			*	.05	.15	1.42					.01		T.	.01	.35	.25	*	.48					.06	.02				*	.41		3.21	
South Orange			.03	.03	1.44	.16	T.			T.	T.		.10	.16	*	.38						.02	.01			T.		.10	.35		2.62	
Chatham				.15	*	1.55					*	.05		.04	*	.65	*	.43					*	.13	.04			*	.45		3.49	
Newark		T.		.05	1.39					T.	T.		.25	.17	.07	.25	.09					.03	T.	.01		T.		.30	.33	T.	2.93	
New York, N. Y.			.02	T.	1.23	T.	T.			T.	T.		.36	.20	T.	.20	.67					.03	T.	.01		T.		.21	.39	T.	3.33	
Jersey City		T.	T.	.01	1.28	.17	T.			T.	T.		.01	.05	.07	.08	.73					.02	T.			T.		.19	.43	T.	3.74	
Bayonne		T.		.02	1.23	.16	T.			T.	T.		T.	*	.57	.07	.05	.57					.04	T.	.01			.18	.32		3.22	
Bergen Point																																
Elizabeth			*	*	*	1.14					T.		*	.35	.16	.30	.28						.09	.05			T.	*	.40		2.77	
Plainfield		T.		.02	1.26	.07	T.			.01		.01	.05	.48	.12	.10	.62	T.				.04				T.		.25	.35		3.38	
Somerville				.03	1.40	.25				T.	T.		.03	*	.45	.10	.05	.55					T.	.08	.04				.20	.23		3.41
Flemington				.05	.91	.48				T.	.03		.03	*	.30	.23	.20	.33					.05	.06	.3		T.	.15	.20		3.05	
New Brunswick																																
College Farm		T.	*		.88	.22	T.					.02	*	.40	.09	.14	.40						.02	.07	.02			.23	.68		3.17	
Runyon				.04	1.23	.02				T.	T.		.01	*	.26		*	.76					.06					*	.69		3.07	
Lambertville				.02	.52	.56	T.			T.	T.		.02	*	.39	.11	.01	.83					.05					.16	.19		2.86	
THE SOUTHERN INTERIOR.																																
Hightstown				1.36		.05					T.	.10	.15	.07	.35	.50							T.					*	.60		3.18	
Freehold																																
Trenton			T.	.04	.25		T.					*	.40		.40	.56							T.					.20	.53		3.28	
Imlaystown			*	1.09		.05				.01		*	.40		*	.80							.08				T.	*	.49		2.92	
Burlington			.14	.94		.03				.02	.01		.26	.16	.30	.50							.11	.07				.45	.06		3.05	
Rancocas			T.	.03	1.00	.05	T.	.05			.02	.10	.27		*	.20						.03	.07	T.		T.		.15	.35	T.	2.25	
Moorestown			*	.96		.02	.01	T.	.02	T.	.02	*	.39		.20	.80						.01	.08	T.				.14	.26		2.91	
Philadelphia, Pa.			T.	.02	.93	.01	.01	T.	.01	T.	.01	.31	.09	.27	.56	.07	.02					.07	.02			T.		.17	.04	.01	2.92	
Haddonfield			T.	*	.60	.01	.03	T.	.02		.04	.05	.36	.26	.76							.08	.08			T.		.34	.05		2.98	
Indian Mills				.60	.56	.04	.02	.04		.02		.40	.09	.25	1.01							T.	.10	.03			.16	.34		3.66		
Clayton				1.01	.03	.05		.08		.03	*	.51	*	.72								T.	.13			T.	*	.31		2.87		
Hammonton			*	1.14	T.	T.	T.					*	.63	T.	1.03							*	.05				*	.24		3.00		
Tuckerton				.51	.58	*	.19					*	.78	*	.97							.07	.10				.46	.26		3.92		
Egg Harbor City			*	.77	.02	.02						*	.69	.13	*	1.00											*	.34		2.97		
Friesburg			*	.85		.10				.02	.03	*	.50		.05	.67							.10				.22	.02		2.56		
Vineland			*	.71	.08	.05		.03				*	.41	.23	.20	.66						.05	.06				.09	.02		2.53		
Canton			*	.62		.02		T.				*	.56	*	.74							.01				*	.23			2.18		
Bridgeton			.30	.45		.10		.10				.40	.20	*	1.00							.10					.29		T.	2.94		
Pleasantville																																
Northfield				.64	.33	.05	T.				.02	.65	.20	.25	.59								.03				.24	.06	T.	3.06		
Port Norris			.30	.45		.10	.10				*	.78	T.	.12	.48							.01	.10			*	.12			2.56		
Woodbine				1.40	.27	.08					*	.60		.26	.63												.24	T.		3.48		
Cape May C. H.			T.	.47	.31	.15	T.				*	.59	.15	.20	.36							.12					.18	.06	T.	2.59		
THE SEA COAST.																																
Oceanic				.02	.48	.45	.05	T.				*	.34	.08	*	1.48		T.				*	.08					.18	.47		3.93	
Long Branch																																
Asbury Park			T.	.68	.18	.25	.05	T.		T.	*	.35		.23	1.60		T.					T.						.10	.50	T.	3.96	
Atlantic City			.03	1.11		.09	.02	T.			.49	.33	.21	.38	.30							.03	.01			T.		.21	.08	T.	3.29	
Cape May City			.06	.73		.20	T.	T.		T.	.50	.26	.11	.45	.15							.09	.01				.17	.06	T.	2.79		

\* Precipitation measured in the morning.

T. indicates amount too small to measure.

\* Precipitation included in that of the following day.



UNNJ  
U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR FEBRUARY, 1909.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF

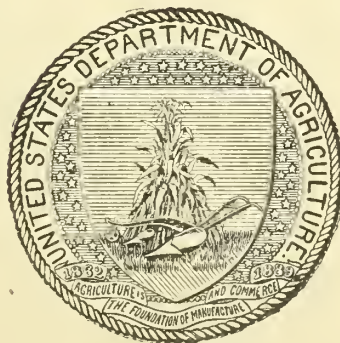
WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



ALBANY, N. Y.

WEATHER BUREAU OFFICE

MARCH 29, 1909

# Total Monthly Precipitation, February, 1909.





U. S. DEPARTMENT OF AGRICULTURE,  
**CLIMATOLOGICAL SERVICE**  
 OF THE  
**WEATHER BUREAU.**

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,  
 LEVI A. JUDKINS, Section Director.

VOL. XXII. ATLANTIC CITY, N. J., FEBRUARY, 1909. No. 2

**GENERAL SUMMARY.**

February, 1909, was an unusually mild month, the mean temperature for the State having been higher in February only twice in a period of 25 years. The mean temperature for the same month in 1890, the mildest February on record, was about 2° higher than the mean of the current month, and for February, 1891, only a fraction of a degree higher. The monthly maximum temperature was the highest reported since 1890, and is the second highest on record for February in a long series of years. The monthly minimum temperature was not as low as usual. Zero, or slightly lower, temperatures were reported from but few stations and were confined to a single date. The precipitation exceeded the February normal, altho the departures were not marked as a rule. The light snowfall was a feature of the month, as well as the excessive cloudiness over the greater part of the State.

The mean temperature ranged from 32° to 42°, and averaged about 8.5° per day above the normal. The local excesses were most pronounced in parts of Burlington, Gloucester, Hunterdon, Mercer, Ocean, Salem and Sussex counties, where they ranged from 10° to 12°. The coldest weather of the month occurred on the first two days, the minimum temperatures on the 1st ranging from -2° to 8° in the northern half of the State, and from 5° to 14° in the southern half. During the remainder of the month there was scarcely any cold weather worthy of mention. The highest temperatures occurred mostly on the 10th in the northern counties, and on the 6th and 15th in the southern counties, the temperature on the 15th being unseasonably high over the southern interior.

The monthly precipitation exceeded 6 inches over portions of Bergen, Essex, Morris, Passaic and Warren counties; elsewhere it ranged from 4 to nearly 6 inches, except over parts of Atlantic, Cape May and Salem counties, where slightly less than 4 inches were received. As compared with the normal, there was an average excess of about 2.25 inches over the Highlands and Kittatinny Valley district, and a more moderate excess elsewhere, the Sea Coast receiving nearly the normal amount. The greater part of the monthly precipitation occurred in four periods, namely, the 9th-10th, 16th, 19th-20th, and the 23d-24th, the greatest 24-hour amounts being reported from most stations in the last-named period. Appreciable snowfall was confined to the first decade, the ground being bare of snow during the remainder of the month.

Brisk to high winds occurred frequently. Local storm of severity swept over the northern counties on the afternoon of the 10th, causing much damage to property. In Newark, where one life was lost and several persons injured, the storm exhibited a few characteristics of a tornado.

The weather of the month was favorable for out-door work, much of which was accomplished in advance of the season. A very small part of the usual ice crop was secured, however. Migratory birds appeared earlier than customary, and maple trees were in bloom as far north as Burlington County on, or about, the 15th.

**TEMPERATURE.**

The monthly mean, 37.8°, was 8.6° above the normal. The mean maximum was 46.6°, the mean minimum 29.0°, and the mean daily range 17.6°.

The means for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley, 34.3°, +9.0°; Red Sand Stone Plain, 36.6°, +7.8°; Southern Interior, 40.6°, +9.6°; Sea Coast, 39.6°, +7.3°.

The highest monthly mean was 42.0°, at Bridgton, and the lowest, 32.3°, at Englewood, the range of monthly mean temperature being 9.7°.

The highest temperature, 72°, occurred at Indian Mills, on the 15th, and the lowest, -2°, at Charlotteburg and Newton, on the 1st, the range within the State being 74°.

The greatest local monthly range, 65°, occurred at Hightstown and Imlaystown, and the least, 43°, at Cape May.

The greatest daily range, 41°, occurred at Indian Mills, on the 5th.

**PRECIPITATION.**

The average, 4.96 inches, was 1.19 inches above the normal, the averages for the various districts, with the departures from the normal, being as follows: The Highlands and Kittatinny Valley, 5.86 inches, +2.20 inches; Red Sand Stone Plain, 5.25 inches, +1.28 inches; Southern Interior, 4.60 inches, -0.81 inch; Sea Coast, 4.13 inches, -0.44 inch.

The greatest monthly amount, 6.78 inches, occurred at River Vale, and the least, 3.55 inches, at Northfield (3.56 inches at Cape May).

The greatest 24-hour amount, 2.04 inches, occurred at Moorestown, on the 23d-24th.

No excessive precipitation occurred.

The average snowfall, unmelted, was 2.3 inches, the averages for the various districts being as follows: The Highlands and Kittatinny Valley, 1.7 inches; Red Sand Stone Plain, 1.6 inches; Southern Interior, 3.4 inches; Sea Coast, 2.5 inches. The greatest monthly amount was 6.0 inches, at Vineland.

Measurable precipitation occurred on an average of 12 days.

**SUNSHINE AND CLOUDINESS.**

The average number of clear days was 6; partly cloudy, 10; cloudy, 12. The following percentages of the possible amount of sunshine were reported: Atlantic City, 56; Hightstown and Jersey City, 42.

**WIND.**

Northwest winds prevailed. The highest velocities reported from regular Weather Bureau stations, for 5-minute periods, were as follows: Atlantic City, 37 miles per hour, from the southeast, on the 19th; Cape May, 37 miles, from the southeast, on the 20th; New York, N. Y., 73 miles, west, on the 25th; Philadelphia, Pa., 38 miles, northwest, on the 25th.

## MISCELLANEOUS PHENOMENA.

*Meteors.*—Vineland, 18th.

*Hail.*—Charlotteburg, Culver's Lake, Dover, Phillipsburg, 10th.

*Lightning.*—Canton, 23d; Cape May Court House, 16th; Indian Mills, 7th.

*Thunderstorms.*—Atlantic City, 7th; Belvidere, 16th, 20th; Boonton, Charlotteburg, 10th; Bridgton, Burlington, Clayton, Flemington, Friesburg, Haddonfield, Imlaystown, Indian Mills, Lambertville, Layton, Moorestown, New Brunswick, Rancocas, Somerville, Trenton, Vineland, 16th; Cape May, 7th, 21st; Cape May Court House, 8th, 16th; Culver's Lake, Dover, Newton, Phillipsburg, Sussex, 10th, 16th; Port Norris, 23d; Tuckerton, 8th.

*Sleet.*—Asbury Park, 8th, 9th; Bayonne, Boonton, Paterson, Somerville, 23d; Culver's Lake, 10th, 15th, 16th, 23d; Dover, Sussex, 16th; Englewood, 9th, 23d; Jersey City, Oceanic, Phillipsburg, 9th; Trenton, 10th.

*Halos, lunar.*—Atlantic City, 26th; Cape May, Haddonfield, 2d, 26th; Cape May Court House, 2d, 6th; Imlaystown, Indian Mills, Plainfield, Somerville, 2d; Jersey City, 7th; Layton, 6th; Oceanic, Rancocas, Trenton, 2d, 5th.

*Halos, solar.*—Atlantic City, 21st, 23d; Cape May Court House, 14th, 18th; Imlaystown, 2d; Indian Mills, 2d, 26th; Jersey City, 7th; Oceanic, 7th, 9th, 21st, 23d, 28th; Rancocas, Vineland, 2d, 18th.

*Fog.*—Asbury Park, 15th, 24th; Atlantic City, 14th, 16th, 24th; Bayonne, 15th, 16th, 23d, 24th; Bergen Point, 5th, 15th, 16th, 24th; Boonton, 10th, 15th; Burlington, 4th, 24th; Cape May, 5th, 6th, 14th, 15th, 19th, 23d, 24th; Haddonfield, 15th, 22d; Hammonton, 22d; Hightstown, 15th, 23d; Indian Mills, 4th; Jersey City, 15th, 16th; Little Falls, Newark, Plainfield, Trenton, 15th; Oceanic, 15th, 16th, 24th; Paterson, 10th, 15th; Phillipsburg, 5th; Rancocas, 4th, 16th, 22d-24th; Somerville, 4th, 13th, 15th; Tuckerton, 16th; Vineland, 4th, 22d.

## REMARKS BY OBSERVERS.

DOVER.—The mean temperature was the highest recorded for February in a period of 25 years, with a single exception—1890. No ice was gathered during the month.—W. C. HARRIS.

PHILLIPSBURG.—The abnormally mild weather was a noteworthy feature of the month. The Delaware River was open during the month, and rose considerably during the latter half.—D. W. SMITH.

SOUTH ORANGE.—With the exception of February, 1890, the mean temperature was the highest recorded for this month in a period of 39 years.—W. J. CHANDLER.

JERSEY CITY.—The month was remarkable for its mildness, its light snowfall, and the frequency of high winds. The Hudson River was free from ice after the first few days of the month.—S. K. PEARSON, JR.

BERGEN POINT.—It was necessary to use artificial lights in places of business during the afternoon of the 24th, owing to the darkness produced by an unusually dense fog.—W. H. MITCHELL.

MOORESTOWN.—The maximum temperature for the current month (70°) has been equaled only a few times in winter during the last 46 years. The weather conditions were exceptionally favorable for out-door work.—J. C. BEANS.

HADDONFIELD.—The mild weather of the month prevented the harvesting of the usual ice crop. Much out-door work was done.—C. F. RICHARDSON.

TUCKERTON.—Mild weather was the feature of the month, and less than the normal amount of snow occurred.—F. R. AUSTIN.

CAPE MAY.—No ice has been observed on the ocean front during the current winter, to date.—G. L. LOVETT.

## DELAYED REPORTS.

Bergen Point, January, 1909.—Temperature: Mean, 32.8°; departure from normal, +2.4°; highest, 57°, 5th; lowest 4° 19th; greatest daily range, 24°. Total precipitation, 3.94 inches; departure from normal, -0.17 inch; greatest in 24 hours, 1.28 inches; total snowfall 17.0 inches; number rainy days, 12; clear, 9; partly cloudy, 8; cloudy, 14; prevailing wind, northwest.

Long Branch, January, 1909.—Temperature: Mean, 35.6°; highest, 56°, 6th; lowest, 11°, 19th; greatest daily range, 31°. Total precipitation, 3.59 inches; greatest in 24 hours, 1.40 inches; total snowfall, 13.0 inches; number rainy days, 10; clear, 7; partly cloudy, 12; cloudy, 12. Prevailing wind, northeast.

Freehold, January, 1909.—Total precipitation, 2.80 inches; departure from normal, -2.21 inches; greatest in 24 hours, 1.10 inches; total snowfall, 10.0 inches; number rainy days, 8.

## CORRECTIONS.

January, 1909, Report.—Page 3: The average snowfall for the Red Sand Stone Plain should be 9.7 inches; for the Southern Interior, 6.2 inches, and for the Sea Coast, 8.7 inches. The greatest monthly snowfall should be 17.0 inches, at Bergen Point. Page 5: Temperature departure for Phillipsburg, +3.0, should be +2.6; total snowfall for Asbury Park, 9.5 inches, should be 15.3 inches.

## COMPARATIVE STATE DATA FOR FEBRUARY.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1885.....	24.6	54	-2	3.94
1886.....	28.5	64	-10	5.50
1887.....	33.9	69	6	5.24
1888.....	30.6	60	-5	3.53
1889.....	27.7	53	-3	2.49
1890.....	39.9	76	14	4.17
1891.....	38.0	71	1	5.11
1892.....	33.6	58	7	1.03
1893.....	30.1	63	-1	5.73
1894.....	29.7	62	-11	4.42
1895.....	23.6	57	-12	1.28
1896.....	32.1	62	-12	6.77
1897.....	32.5	59	-6	3.61
1898.....	32.7	65	-15	3.48
1899.....	25.8	60	-17	6.06
1900.....	31.0	69	-6	5.30
1901.....	25.4	52	-6	0.94
1902.....	27.4	62	-7	6.24
1903.....	33.7	70	-16	4.87
1904.....	24.8	65	-16	2.45
1905.....	23.4	53	-18	2.53
1906.....	30.9	64	-12	2.58
1907.....	23.6	55	-22	2.67
1908.....	28.1	65	-17	4.79
1909.....	37.8	72	-2	4.96



## CLIMATOLOGICAL DATA FOR FEBRUARY, 1909.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit						Precipitation, in inches.				Sky				Prevailing direction of wind.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.			Number cloudy days.
THE HIGHLANDS AND KITATINNY VALLEY.																				
Layton	Sussex	550	10	33.3	12.1	57	10	0	1	38	5.52	2.83	1.25	1.5	12	6	8	14	W.	Warren C. Harsh
Sussex	do	442	15	34.2	9.3	55	13	0	1	29	5.23	1.70	1.05	1.0	12	7	10	11	W.	Prof. W. H. Seeley
Culver's Lake	do	848	8								5.24		1.21	1.6	10	6	10	12	nw.	B. E. Riker.
Newton	do	678	26	33.8	8.5	58	10	-2	1	48	5.75	2.00	1.53	1.5	11	7	8	13	nw.	B. H. Kienbaum.
Charlotteburg	Passaic	719	17	34.1	9.1	50	5	-2	1	34	6.07	2.10	1.75	4.0	12	6	9	13	W.	G. S. Briggs.
Pompton Plains	Morris	105	7								5.53		1.42	0.5	11				nw.	M. S. Taylor.
Boonton	do	413	18								6.25	1.89	1.56	1.5	13				nw.	F. G. McIntosh.
Dover	do	575	25	33.9	7.9	55	10	2	1	32	6.36	2.21	1.40	1.3	14	1	13	14		William C. Harris.
Belvidere	Warren	289	19	34.6	8.3	61	10	4	1	38	6.45	2.46	1.28	1.9	10	7	8	13		Samuel J. Hixson.
Phillipsburg	do	196	7	30.0	8.1	60	10	6	1	29	5.61	2.29	1.23	1.8	10	6	10	12	W.	D. W. Smith.
THE RED SAND-STONE PLAIN.																				
Mahwah	Bergen	7	7								5.91		1.45	1.0	11				nw.	M. F. Brooks.
River Vale	do	70	18	33.7	7.0	57	*6	1	1	34	6.78	1.25	1.80	2.5	11	3	13	12	nw.	G. S. M. Holdrum.
Paterson	Passaic	110	33	30.6	0.5	58	10	4	1	33	5.21	0.83	1.22	2.6	12	1	19	8	nw.	H. A. Probert.
Englewood	Bergen	135	23	32.3	3.0	54	10	0	1	28	4.32	-0.28	1.32	1.5	12	5	8	15	nw.	William C. Tucker.
Little Falls	Passaic	175	7								5.93		1.48	0.7	13				W.	F. Fearns.
South Orange	Essex	200	40	36.2	7.3	60	10	4	1	31	5.52	1.54	1.27	1.0	12	5	13	10	W.	W. J. Chandler, M. D.
Chatham	Morris	234	7								6.26		1.85		13				W.	M. A. Butler.
Newark	Essex	140	65	37.2	9.1	59	10	3	1	33	6.28	2.05	1.90	0.7	13	1	13	14	sw.	Wm. Wiener.
New York, N. Y.	New York	314	39	37.3	0.6	58	10	5	1	25	4.31	0.57	1.50	1.4	12	3	11	14	W.	U. S. Weather Bureau.
Jersey City	Hudson	15	4	37.5		58	6	5	1	26	4.50		1.60	1.2	13	3	14	11	sw.	Samuel K. Pearson, jr.
Bayonne	do	50	19	36.6	7.6	61	10	5	1	33	4.59	0.81	1.39	1.5	13	3	11	14	W.	John H. Eadie.
Bergen Point	do	37	12	37.3	-9.6	60	10	6	1	31	5.11	-1.04	1.10	1.5	13	4	10	14	sw.	Dr. W. H. Mitchell.
Elizabeth	Union	33	30	37.0	-6.7	61	10	1	1	32	4.63	-0.38	1.08	0.7	11	3	11	14	nw.	W. M. Oliver.
Plainfield	do	100	22	36.7	-8.2	61	10	4	1	34	5.60	-1.58	1.94	2.5	13	6	14	8	nw.	John Neagle.
Somerville	Somerset	76	30	37.5	-9.1	64	10	4	1	38	4.88	-0.97	1.45	1.5	12	7	7	14	W.	Peter Hardcastle.
Flemington	Hunterdon	187	12	37.4	-10.7	60	10	7	1	34	5.38	-1.77	1.45	2.0	15	8	8	12	W.	H. E. Deats.
New Brunswick	Middlesex	61	56	37.8	-6.6	62	10	5	1	35	4.50	-0.83	1.00	3.0	12	5	9	14	W.	Wm. T. Woerner.
College Farm	do	100	14	37.0	-9.2	61	10	3	1	32	5.40	-1.92	1.75		14	5	11	12	W.	Geo. B. Thrasher.
Rumyon	do	18	9								4.00		1.47	1.0	12					J. H. Cottrell.
Lambertville	Hunterdon	95	23	38.6	8.6	66	15	8	1	32	4.98	-1.60	1.84	2.0	12	8	8	12	nw.	William R. Bowne.
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	18	39.2	-10.5	70	15	5	1	33	5.33	-1.55	1.92	2.0	12	9	7	12	W.	Ernst Wenger.
Freshhold	Monmouth	187	26								5.18	1.17	1.83	2.0	9				nw.	F. T. Cooper.
Trenton	Mercer	60	40	40.2	-8.9	65	15	7	1	30	4.61	1.01	1.66		12	3	13	12	nw.	E. R. Cook.
Imlaystown	Monmouth	106	23	39.5	8.8	71	15	6	1	33	4.78	-1.02		2.7	12	7	9	12	W.	F. C. Price, M. D.
Lakewood	Ocean	54	8								5.19	-1.77	1.97	2.3	11				nw.	Prof. C. B. Starr.
Burlington	Burlington	12	17								5.14	-1.16	1.32	3.3	13	6	10	12	nw.	D. S. B. McCoy.
Ranocas	do	68	23			71	15	7	1		5.14	-1.16	1.32	3.3	13	6	10	12	nw.	Spencer Haines.
Moorestown	do	71	45	40.4	-9.6	70	15	9	1	33	4.96	-1.35	2.04	3.3	13	7	6	15	W.	John C. Beans.
Philadelphia, Pa.	Philadelphia	117	39	41.2	-8.4	67	15	12	1	26	4.62	-1.24	2.00	2.2	13	6	10	12	nw.	U. S. Weather Bureau.
Haddonfield	Camden	75	1	40.2	-8.7	68	15	9	1	28	4.32	-0.31	1.41	2.8	14	9	9	10	nw.	C. F. Richardson.
Indian Mills	Burlington	76	9	41.7	-10.4	72	15	9	1	41	5.35	-1.81	1.82	4.8	13	8	7	13	nw.	James Armstrong.
Clayton	Gloucester	126	13	40.6	-11.6	70	15	10	1	34	5.13	-1.03	1.02	3.5	12	8	8	12	nw.	Wm. T. Farley.
Hammonton	Atlantic	80	11								4.60	-0.69	1.52	4.3	12					Orville Bassett.
Tuckerton	Ocean	23	12	39.4	-10.4	61	6	9	1	33	4.40	-0.31	1.54	5.5	12	7	10	11	sw.	F. R. Austin.
Egg Harbor City	Atlantic	63	18								3.96	-0.14		2.0	13	6	10	12	W.	H. C. Perry.
Friesburg	Salem	100	17	41.2	-11.6	71	15	10	1	37	4.29	-0.25	1.34	6.0	12	7	10	11		Alfred Chalmers.
Vineland	Cumberland	118	42	41.2	-8.9	70	15	10	1	35	4.29	-0.25	1.34	6.0	12	7	10	11		J. H. Maskell.
Canton	Salem	24	8								3.80	-0.07	1.14	1.0	9	7	10	11		Henry A. Jordan.
Bridgeport	Cumberland	30	34	42.0	7.8	70	15	10	1	40	4.09	-0.16	1.44	3.0	11	7	10	11	W.	L. Van Gilder.
Pleasantville	Atlantic	26	11								3.55		1.23	4.9	11					Wm. L. Flick.
Northfield	do	1	1								4.16		1.35	4.0	9					J. H. Barraclough.
Port Norris	Cumberland	8	1																	R. D. Maltby.
Woodbine	Cape May	43	18																	L. T. Garretson.
Cape May C. H.	do	19	22	41.8	-8.3	68	24	12	1	32	4.04	0.31	1.00	5.0	11	7	12	9	nw.	
THE SEA COAST.																				
Oceanic	Monmouth	16	23	39.4	-7.9	61	5	7	1	32	4.57	0.64	1.82	0.8	12	7	9	12	nw.	Prof. C. E. Dietz.
Long Branch	do	30	1	39.2		60	*6	7	1	26	4.59			2.5	9	6	11	11	nw.	B. B. Bobbitt.
Asbury Park	do	22	21	38.6	-7.6	59	*6	6	1	23	4.19	-0.38	2.00	1.9	11	6	12	10	W.	B. H. Obert.
Atlantic City	Atlantic	16	36	39.7	-6.7	61	6	11	1	25	3.75	0.48	1.33	3.8	13	7	10	11	nw.	Section Center.
Cape May City	Cape May	17	25	41.2	-7.1	57	*6	14	1	20	3.50	0.27	0.78	3.5	12	8	10	10	nw.	U. S. Weather Bureau.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observations.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\*Occurred on more than one date.

†Report not received in season to be considered in averages.

‡The monthly departures from normal temperature and precipitation for Phillipsburg are based on the records of Easton, Pa., and for Haddonfield on the records of the latter station and Camden, N. J.

Stations.		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	Monthly mean.								
Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.							
THE HIGHLANDS & KITTANNY VAL.																																									
Layton	13	0	36	5	33	10	36	10	53	39	42	24	44	34	27	44	34	27	38	23	43	25	55	23	50	39	47	33	53	25	43	21	45	35	48	24	15	44	26	39	
Sussex	18	0	36	10	33	20	33	21	47	25	52	40	27	43	25	38	30	38	30	24	43	27	54	27	54	41	35	53	28	40	36	45	32	46	26	40	17	44	27	42	
Newton	16	-2	37	7	32	19	33	20	52	39	42	24	37	20	54	32	40	28	40	22	43	26	54	25	54	35	42	50	35	43	25	45	35	49	23	37	16	40	27	40	
Charlotteburg	18	-2	37	7	32	19	33	20	52	39	42	24	37	20	54	32	40	28	40	22	43	26	54	25	54	35	42	50	35	43	25	45	35	49	23	37	16	40	27	40	
Dover	15	-2	34	9	35	20	33	20	53	40	41	23	39	21	55	21	24	36	14	31	23	42	27	51	39	45	33	52	27	50	21	46	33	51	25	37	16	40	27	40	
Belvidere	24	4	36	9	27	10	33	21	45	17	55	33	27	43	27	43	27	36	22	55	24	35	23	39	41	30	43	31	40	31	37	33	30	25	41	38	26	51	38	49	
Phillipsburg	23	6	36	14	30	21	36	23	48	20	55	34	21	29	40	29	35	25	60	31	33	24	45	20	55	35	43	33	52	34	49	34	38	25	40	23	10	16	28		
THE RED SAND STONE PLAIN.																																									
River Vale	15	1	37	4	33	20	34	22	49	15	57	37	47	26	45	30	35	23	57	27	40	27	38	18	55	30	45	32	39	33	38	33	36	21	42	24	21	46	20	41	
Patterson	21	4	38	13	35	24	37	24	52	25	57	38	43	30	48	30	40	24	58	25	39	27	42	22	56	30	48	34	39	33	38	30	40	37	38	29	40	19	46	26	41
Englewood	14	0	32	4	30	19	29	20	42	24	52	34	27	37	41	26	35	23	54	20	36	20	13	54	22	36	40	34	31	34	29	32	23	27	36	49	28	40	26	39	
South Orange	19	0	36	14	30	24	35	28	38	30	41	26	39	26	41	22	35	30	40	28	47	30	45	34	50	35	42	44	30</												



### Monthly Mean Isotherms and Prevailing Winds, February, 1909.



DAILY PRECIPITATION FOR FEBRUARY, 1909.

Stations.	Day of month.																															Total.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
THE HIGHLANDS AND KITTA-TINNY VALLEY.																																	
Layton															*	.34	.61	.50		*	1.25			.51	1.03								5.52
Sussex	T.					.08		.05	.91							.33	.75	.50	.30	.63			.50	1.05				T.	.20				5.23
Cuiver's Lake		.01		T.		.15		.01	.98	.01			.01	T.		.29	.49	.50	.01	1.24		.01	.34	1.07				.01	.12				5.24
Newton		.04		T.		.10		*	.90				.01			.33	1.53					.01	.34	1.46									5.24
Charlotteburg		.27						*	1.40				.04	*	*	.30	1.00		1.05				1.32	*	1.83								5.75
Pompton Plains		.06				.08		*	1.25				.02	*	*	.24	.84		1.02				*	2.02						.08			6.07
Bloomton		.02				.13		*	1.31				.03	*	*	.30	.89		1.28		.08		*	2.18									5.50
Dover		.08				.09		*	1.26				.08	*	*	1.27			1.00	.08			*	2.02									6.25
Belvidere		.11				.18		*	1.04				.06	*	*	.29	1.28	.50	*	1.05	.08		.75	1.25							.05		6.36
Phillipsburg		.09	T.	.02		.06			.18	.90	T.		.03	.28		.05	1.23		.82	.12	.08	.01	1.00	.73				.01	T.	.05			6.45
																																	5.01
THE RED SAND STONE PLAIN.																																	
Mahwah						.08		*	1.30				.06	*	*	.30	.75		1.45				*	1.94					.03				5.91
River Vale		.05						*	1.80					*	*	.80	1.20	.40	1.06	.60			.07	1.80				T.	T.				6.78
Paterson		.04			T.	.08		*	1.11	T.			.02	*	*	.29	.83		1.13		.03		.40	1.22			T.	T.	T.				5.21
Englewood	T.					.07		.18	.68	T.			.06	.31	*	.29	.38		.49	.03	.05	T.	1.32	.69				T.	T.				4.32
Little Falls		.05				.09		*	1.16	T.			.02	*	*	.29	.99		*	1.30	.05		*	1.98				T.	T.				5.93
South Orange		.10						.37	.60	T.			.05	.05	.25	.75		1.70	.25	.08		1.05	1.27			T.	T.	T.				5.52	
Chatham		.20						*	.85				.10	.04	.28	.95		1.10	.09			*	2.60				*		.05				6.26
Newark		.02				.03		.11	1.20	T.			T.	.21	.12	.98		.85	.25	.05	.05	1.68	.73				T.	T.					6.28
New York, N. Y.	T.					.05		.20	.72	T.			.03	.26	T.	.49		.52	.01	.05	T.	1.29	.64				T.	T.					4.31
Jersey City		.04		T.		.06		.05	.83	T.			.02	.13	.17	.65		.39	.01	T.	.05	.80	1.30				T.	T.					4.50
Bayonne		.05	T.			.05		.05	.97	T.			.05	.04	.25	.60		.13	.32		.05	.64	1.39			T.	T.	T.					4.59
Bergen Point		.14	T.			.05		.10	1.00	T.			.06	.10	.35	.60		.26	.43		.05	.81	1.16			T.	T.	T.					5.11
Elizabeth	T.							*	.85		*			*	.30	.78		*	.43			*	2.19				*						4.03
Mainfield		.15				.04		.10	.81	T.			.09	.11	.19	.94		.57	.22	.04		.79	1.55			T.	T.	T.					5.00
Somerville		.08						.05	.85				.05	*	.25	.65		.18	.65	.06		.58	1.53			T.	T.	T.					4.88
Flemington		.10			T.	.08		*	.83	.04			.07	*	*	.26	.66		.08	.93	.15		.51	1.05				.02	T.				5.38
New Brunswick		.20				.20		.30	.30				*	*	.20	.40		*	.85	.05		1.00	1.00			T.	T.	T.					4.50
College Farm		.04				.05		*	1.05				.02	*	.23	.71		.13	.68	.04		.48	1.95					.02	T.				5.40
Rumyon		.10				T.		.76		T.	*		.02	.21		.36		*	.46	.01		*	2.08			T.	T.	T.					4.00
Lambertville		.05				.06		*	.90				.01	*		.25	.56		T.	.85	T.		.45	1.84				.01	T.				4.08
THE SOUTHERN INTERIOR.																																	
Hightstown		.20				.06		*	.88		*		.06	.22		.53			.71				*	2.64					.03				5.33
Freehold		.15					.05	*	.93				.06	.24		.47		.77				1.83	.74										5.18
Trenton	T.			T.		.17		.07	.50		*	.11	*	*	.26	.40		.38	.42	T.		.64	1.66										4.61
Inlaystown		.13				.04		*	.61		*		.06	*	.15	.66		.63				*	2.50					T.					4.78
Lakewood		.22				.09		.02	.46	.29			.08	.22		.49		.65				1.97	.79										5.10
Bancocas		.30		T.		.10	.02	.10	.65		T.	.05	.10	.15	.30		.73		.02			1.30	1.32				T.	T.					5.14
Moorestown		.26		T.	.09	.03		.02	.68		*	.08	.14		.37		.53		.02	.02		.54	2.20				T.	T.					4.66
Philadelphia, Pa.		.13		T.		.07	.04	.31	.48		T.	.06	.15	.01	.42		.40	1.	.02		1.65	.88					T.	T.					4.62
Haddonfield		.20		T.		.05	.03	.07	.25			.10	.15	.02	.39		.34	.11	.07		1.41	1.13				T.	T.						4.32
Indian Mills		.22			.03	T.		.40	*	.75		.15	*	.15	.66		.44		.14			.35	2.06										5.33
Clayton		.05			.10			.30	*	1.02		.15	*	.09	.56		.58					*	2.28										5.13
Hammonton		.03				.03		.11	*	.79		.15		.07	.45		.53		.10			*	1.52	.66									4.60
Tuckerton		.15			.08	*	.41	*	.48			.22		.05	.30		.50					.30	1.54	.35									4.40
Egg Harbor City																																	
Friesburg	T.				.03		.20	*	.74			.18	*	.07	.61		.22		.05	*	*	1.85							.01				3.66
Vineland		T.				*	.60	*	.78			.11	*	.06	.18		.49		.03			.38	1.66										4.29
Canton									.46	.33		.20		*	.76		.19				1.14	.62											3.80
Bridgeton						*	.25	.50	.05			.30	.08	*	.55		.30		.10			.52	1.44										4.09
Pleasantville																																	
Northfield				T.		*	.45		.32			.14		.02	.31		.35		.05			.23	1.44										3.55
Port Norris				T.		.55	T.		.70			.31			.49		.30		.10			.45	1.35										4.16
Woodbine								*	.82	*	.31			.31		.22	.18		.06	.26	.18		.40	1.00	.30				T.				4.94
Cape May C. H.																																	
THE SEA COAST.																																	
Oceanic		.08				.07		*	.63	T.		.06	*	.19	.51		.56				.93	.33	2.11					T.					4.57
Long Branch		.15			T.		.10	*	.86		T.		*	.08	.65		.57				T.	*	1.98	.28				T.					4.59
Asbury Park		.15					.05	*	.52			.10	*	.08	.45		.35					.32	2.17				T.	T.					4.19
Atlantic City	T.					.02	.29	.34	.09	.17		.33	.02	.02	.42		.25		.04		1.02	.74			T.								3.75
Cape May City						.02	.30	.10	.11	.48		.20		*	.35		.20	.02	.16		T.	.78	.78					T.					3.50

|| Precipitation measured in the morning.

T. indicates amount too small to measure.

\*Precipitation included in that of the following day.



U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR MARCH, 1909.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF

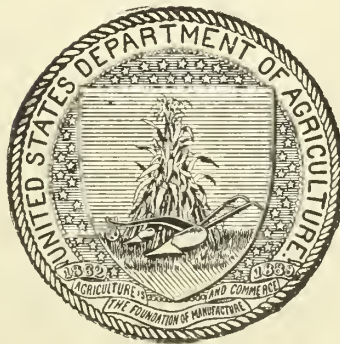
WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



ALBANY, N. Y.

WEATHER BUREAU OFFICE

MAY 4, 1909

# Total Monthly Precipitation, March, 1902.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

## NEW JERSEY SECTION.

LEVI A. JUDKINS, Section Director.

VOL. XXII. ATLANTIC CITY, N. J., MARCH, 1909. No. 3

## GENERAL SUMMARY.

The weather during the greater part of March, 1909, was lustery, and generally typical of the third month. The mean emperature for the State was a fraction of a degree below the normal, and only  $0.5^{\circ}$  higher than the mean for the preceding month. The monthly minimum temperature was lower than that for February, 1909. There were no marked periods of warm or cold weather, the temperature during a large part of the month being remarkably uniform for the season. The precipitation was below the normal over much the greater portion of the State. The snowfall was heavier than during the preceding month. Practically the normal amount of sunshine was received.

The mean temperature ranged from  $34^{\circ}$  to nearly  $41.5^{\circ}$ , and averaged about  $0.5^{\circ}$  per day below the normal. The local departures of monthly mean temperature from the normal were variable, ranging from excesses of  $1^{\circ}$  to about  $1.5^{\circ}$  per day, in portions of Burlington and Union counties, to deficiencies of from  $2^{\circ}$  to nearly  $3^{\circ}$ , in parts of Camden, Gloucester, Mercer, Salem and Sussex counties. The warmest weather of the month occurred at the close of the first decade and during the latter part of the third decade. The highest monthly temperatures, ranging from about  $60^{\circ}$ , in the extreme north and on the southern coast, to slightly above  $70^{\circ}$ , in the central and southern interior counties, were reported on the 10th thruout the State. Subsequently, there were very few days with maximum temperatures approaching  $60^{\circ}$ . The coldest period of the month extended from the 4th to the 6th, inclusive, the monthly minimum temperatures occurring on the latter-mentioned date at most stations.

As a rule, the monthly precipitation was well distributed over the State, the greater part of the district receiving amounts ranging from 3 to 4 inches. Several restricted areas in the northeastern, the central and southern parts of the State received amounts ranging from slightly more than 4 inches to nearly 4.75 inches, while over portions of Atlantic, Cumberland, Monmouth and Sussex counties the total precipitation was less than 3 inches. As compared with the normal, there was a deficiency of precipitation for the State as a whole of about 0.50 inch, the local deficiencies being most pronounced over portions of Essex, Monmouth, Sussex and Union counties. Slight excesses were re-

ported from parts of Mercer and Gloucester counties. Altho precipitation occurred frequently during the month, no large amounts were received in single storms, except in the middle of the third decade, when the 24-hour falls ranged from 1 to 2 inches. The greater part of the monthly snowfall occurred in the first decade (mostly on the 4th), and the depths of snow on the ground disappeared rapidly.

High winds were reported on the 4th, 11th, and 25th.

Preliminary out-door work was well advanced at the close of the month.

## TEMPERATURE.

The monthly mean,  $38.3^{\circ}$ , was  $0.7^{\circ}$  below the normal. The mean maximum was  $47.3^{\circ}$ , the mean minimum  $29.3^{\circ}$ , and the mean daily range  $18.0^{\circ}$ .

The means for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley,  $35.3^{\circ}$ ,  $-0.7^{\circ}$ ; Red Sandstone Plain,  $38.4^{\circ}$ ,  $0.0^{\circ}$ ; Southern Interior,  $39.6^{\circ}$ ,  $-1.4^{\circ}$ ; Sea Coast,  $39.2^{\circ}$ ,  $-0.3^{\circ}$ .

The highest monthly mean was  $41.4^{\circ}$ , at Bridgeton, and the lowest,  $33.6^{\circ}$ , at Layton, the range of monthly mean temperature being  $7.8^{\circ}$ .

The highest temperature,  $74^{\circ}$ , occurred at Friesburg and Long Branch, on the 10th, and the lowest,  $-6^{\circ}$ , at Layton, on the 6th, the range within the State being  $80^{\circ}$ .

The greatest local monthly range,  $67^{\circ}$ , occurred at Layton, and the least,  $34^{\circ}$ , at Atlantic City.

The greatest daily range,  $45^{\circ}$ , occurred at Layton, on the 6th.

## PRECIPITATION.

The average, 3.48 inches, was 0.53 inch below the normal, the averages for the various districts, with the departures from the normal, being as follows: The Highlands and Kittatinny Valley, 3.16 inches,  $-0.63$  inch; Red Sandstone Plain, 3.54 inches,  $-0.63$  inch; Southern Interior, 3.56 inches,  $-0.38$  inch; Sea Coast, 3.57 inches,  $-0.68$  inch.

The greatest monthly amount, 4.66 inches, occurred at Trenton, and the least, 2.31 inches, at Culver's Lake.

The greatest 24-hour amount, 2.00 inches, occurred at Paterson, on the 24-25th.

No excessive precipitation occurred.

The average snowfall, unmelted, was 4.6 inches, the averages for the various districts being as follows: The Highlands and Kittatinny Valley, 7.2 inches; Red Sandstone Plain, 4.3 inches; Southern Interior, 4.1 inches; Sea Coast, 3.5 inches. The greatest monthly amount was 11.3 inches, at Phillipsburg.

Measurable precipitation occurred on an average of 13 days.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 12; partly cloudy, 10; cloudy, 9. The following percentages of the possible amount of sunshine were reported: Atlantic City, 58; Hightstown, 55; Jersey City, 57.

## WIND.

Northwest winds prevailed. The highest velocities reported from regular Weather Bureau stations, for five-minute periods, were as follows: Atlantic City, 43 miles per hour, from the north-east, on the 4th; Cape May, 38 miles, northeast, on the 4th; New York, N. Y., 60 miles, west, on the 11th; Philadelphia, Pa., 36 miles, north, on the 4th.

## MISCELLANEOUS PHENOMENA.

*Aurora*.—Moorestown, 21st.

*Rainbows*.—Asbury Park, Atlantic City, 10th.

*Thunderstorms*.—Bayonne, Elizabeth, Englewood, Jersey City, Plainfield, 4th; Sussex, 27th.

*Halos, lunar*.—Atlantic City, 1st, 9th, 27th; Haddonfield, Rancocas, 1st; Hammonton, 2d; Layton, Moorestown, 8th; Oceanic, 27th.

*Halos, solar*.—Atlantic City, 24th; Burlington, Indian Mills, 8th, 16th; Moorestown, 6th, 24th; Oceanic, 19th, 24th; Rancocas, 1st, 8th, 14th.

*Sleet*.—Asbury Park, 4th, 6th; Bayonne, 3d, 4th; Culver's Lake, 9th; Dover, 2d, 25th; Englewood, Plainfield, South Orange, 4th; Flemington, 14th; Haddonfield, 4th, 25th; Moorestown, 3d, 25th; Newton, 19th, 25th.

*Fog*.—Asbury Park, 9th, 10th, 13th; Atlantic City, 10th, 13th, Bayonne, 3d, 9th, 10th; Cape May, 3d, 10th, 13th, 14th, 20th; Culver's Lake, 10th, 14th; Englewood, 10th; Haddonfield, 3d, 9th, 10th; Hightstown, 14th; Inlaystown, 7th; Jersey City, 9th; Mahwah, 10th; Moorestown, 9th; Newark, 10th; Paterson, Phillipsburg, 9th, 10th; Plainfield, 10th, 13th, 14th; Pompton Plains, 10th, 14th; Rancocas, 2d, 3d, 9th, 10th, 29th; Somerville, Trenton, 13th.

## THE WINTER OF 1908-9.

Altho the winter of 1908-9 was considerably milder than usual, it was by no means a record-breaker for high mean temperature. The mean temperature for the months of December, 1908, January and February, 1909, was 35.0°, or about 4.0° higher than the average temperature of the last 24 winters. The temperature during December, 1908, averaged nearly normal; for January, 1909, there was an average daily excess of about 3.0°, while for February, 1909, a marked departure of +8.6° per day occurred. The last-named month was, therefore, the only one that gave an unusual excess of temperature. As compared with previous seasons, the winter just past was merely a trifle milder than in 1890-1, 1891-2, and 1905-6, when the mean temperatures were 34.3°, 34.8°, and 34.3°, respectively. The memorable winter of 1889-90, with its mean temperature of practically 41.0°, or about 9.5° above the normal, remains the mildest of record for the period extending from 1885-6 to 1908-9. The coldest winters within the period just mentioned were those of 1903-4 and 1904-5, with average temperatures of 25.6°, and 25.8°, respectively, the range of the mean temperature for winter during 24 years being about 15.0°. The highest mean temperature on record for an individual winter month is 41.5° (December, 1889), and the lowest, 21.6° (January, 1893). The

extremes of temperature for the months of December, January and February, for 24 years, are 78°, (January, 1890), and -34° (January, 1904).

The precipitation during the winter of 1908-9 was well distributed thru the season and over the State, a total of nearly 12 inches having been received. The total snowfall, 18 inches, was below the normal, February, 1909, having given the unusually small State average of 2.3 inches.

L. A. J.

## DELAYED REPORT.

January, 1909, Englewood. — Mean temperature, 28.2°; highest, 49°, 4th; lowest, 0, 19th; greatest daily range, 22°. Total precipitation, 3.55 inches; departure from the normal, -0.58 inch; greatest in 24 hours, 1.32 inches; total snowfall, 10.0 inches. Number of rainy days, 11; clear, 6; partly cloudy, 7; cloudy, 18. Prevailing wind direction, northwest.

## LOWEST MONTHLY TEMPERATURES FOR NEW JERSEY, 1885-1908, INCLUSIVE.

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Anl.
1885.	0	-2	2	26	—	—	44	40	38	29	18	6	-2
1886.	-10	-10	9	27	36	41	48	42	36	21	17	-2	-10
1887.	-6	6	8	16	35	42	54	42	30	21	13	6	-6
1888.	-12	-5	0	22	26	39	45	41	29	25	8	5	-12
1889.	8	-3	19	25	32	40	48	45	34	23	13	8	-3
1890.	12	14	0	21	33	42	39	40	33	24	11	3	0
1891.	10	1	4	20	28	38	43	46	39	18	6	9	1
1892.	-6	7	6	19	30	44	44	46	33	21	12	1	-6
1893.	-21	-1	6	19	29	40	40	38	31	17	11	5	-21
1894.	-4	-11	12	10	30	35	44	44	31	27	11	-3	-11
1895.	-4	-12	7	19	28	39	41	34	29	18	12	3	-12
1896.	-7	-12	-8	12	29	37	47	39	30	21	12	-15	-15
1897.	-6	-6	8	19	29	35	50	41	30	22	10	-3	-6
1898.	-10	-13	16	13	29	38	38	41	31	24	11	-2	-15
1899.	-21	-17	13	18	29	38	38	39	30	18	17	-1	-21
1900.	-5	-6	-9	18	26	39	42	41	32	19	15	-2	-9
1901.	-6	-6	-8	23	29	35	45	44	29	21	10	-8	-8
1902.	-5	-7	0	20	29	37	43	40	30	20	20	-11	-11
1903.	-5	-10	13	18	21	37	38	39	29	24	3	-13	-10
1904.	-34	-16	1	16	31	34	42	37	23	15	6	-15	-34
1905.	-16	-18	-7	18	22	35	42	38	28	17	6	5	-18
1906.	-5	-12	-15	17	24	38	46	42	33	11	8	-5	-15
1907.	-19	-22	-11	19	22	31	40	39	31	18	13	3	-22
1908.	-6	-17	7	13	29	35	42	36	29	19	2	1	-17
Min.	-34	-22	-15	10	21	31	38	34	23	11	2	-15	-34

## COMPARATIVE STATE DATA FOR MARCH.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1885.	30.4	66	2	1.10
1886.	37.7	70	9	3.70
1887.	37.7	61	8	3.34
1888.	32.8	72	0	5.71
1889.	40.5	67	19	3.79
1890.	37.6	78	0	6.08
1891.	37.2	68	4	5.06
1892.	34.4	64	6	4.75
1893.	37.0	68	6	3.73
1894.	44.2	83	12	1.77
1895.	36.7	72	7	3.16
1896.	34.0	69	-8	5.34
1897.	40.0	77	8	2.78
1898.	45.1	77	16	3.33
1899.	38.6	73	13	6.54
1900.	35.6	67	-9	3.51
1901.	39.2	75	-8	4.64
1902.	43.9	77	0	4.34
1903.	47.6	79	13	5.13
1904.	37.2	72	1	3.43
1905.	39.8	87	-7	3.95
1906.	34.4	62	-15	5.09
1907.	41.2	88	-11	3.04
1908.	41.8	89	7	2.80
1909.	38.3	74	-6	3.48



## CLIMATOLOGICAL DATA FOR MARCH, 1909.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.					Sky.					Prevailing direction of wind.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.			
THE HIGHLANDS AND KITTATINNY VALLEY.																					
Layton	Sussex	550	10	33.6	2.1	61	10	6	6	45	3.14	-0.64	1.40	8.5	11	13	8	10	w.	Warren C. Hursh	
Sussex	do	442	15	35.8	-0.9	61	10	7	6	33	2.80	-0.91	0.85	6.5	10	13	9	9	w.	Prof. W. H. Seeley.	
Culver's Lake	do	848	8								2.31		1.04	8.9	16	12	9	10	nw.	B. E. Riker.	
Newton	do	678	26	35.1	0.6	63	10	8	6	34	2.58	-1.07	1.05	7.0	11	13	9	9	nw.	B. H. Kienbaum.	
Charlotteburg	Passaic	719	17	34.8	1.2	61	10	11	6	35	4.06	-0.16		5.0	11	12	9	10	w.	G. S. Briggs.	
Pompton Plains	Morris	195	7								3.75		1.54	5.5	13				nw.	M. S. Taylor.	
Boonton	do	413	18								3.29	-0.74	1.30	4.2	14				nw.	F. G. McIntosh.	
Dover	do	575	25	34.6	0.3	66	10	10	6	33			7.5			4	15	12		William C. Harris.	
Belvidere	Warren	289	19	36.4	1.3	64	10	2	6	34	3.27	-0.66	1.61	7.5	11	13	8	10	nw.	Samuel J. Hixson.	
Phillipsburg	do	196	7	36.8	0.0	64	10	8	6	34	3.23	0.24	1.34	11.3	15	13	10	8	nw.	D. W. Smith.	
THE RED SANDSTONE PLAIN.																					
Mahwah	Bergen		7								4.04		1.68	6.3	12				nw.	M. F. Brooks.	
River Vale	do	70	18	36.0	1.5	67	10	10	6	37	4.25	-0.17	1.80	5.0	12	14	8	9	nw.	G. S. M. Holdrum.	
Pateron	Passaic	110	33	38.7	0.3	69	10	17	6	35	3.58	-0.98	2.00	3.6	13	7	17	7	nw.	H. A. Probert.	
Englewood	Bergen	135	23					13	6		3.57	-0.63	1.72	5.5	11	12	8	11	nw.	William C. Tucker.	
Little Falls	Passaic	175	7																w.	F. Farns.	
South Orange	Essex	200	40	37.3	-0.7	68	10	16	6	33	3.41	-0.41	1.70	3.0	14	8	11	12	nw.	W. J. Chandler, M. D.	
Chatham	Morris	234	7								3.80		1.20	6.0	16				w.	M. A. Butler.	
Newark	Essex	140	65	38.8	-0.3	70	10	20	*1	37	2.89	1.05	1.60	3.0	14	9	10	12	nw.	Wm. Wiener.	
New York, N. Y.	New York	314	39	38.3	0.8	66	10	21	5	28	3.19	-0.91	1.66	4.1	11	12	10	9	w.	U. S. Weather Bureau.	
Jersey City	Hudson	15	4	39.2		71	10	21	6	35	3.32		1.60	4.5	12	10	13	8	nw.	Samuel K. Pearson, jr.	
Bayonne	do	50	19	38.0	-1.2	67	10	19	6	33	3.47	-0.58	1.26	5.5	13	14	8	9	nw.	John H. Eadie.	
Bergen Point	do	37	12																	Dr. W. H. Mitchell.	
Elizabeth	Union	33	30	39.8	1.6	68	10	20	*1	33	2.88	-1.41	4.5	14	12	9	10	w.	W. M. Oliver.		
Plainfield	do	100	22	38.2	-0.4	72	10	12	6	37	3.81	-0.55	1.55	4.5	14	10	13	8	nw.	John Neagle.	
Somerville	Somerset	76	30	38.6	-0.9	72	10	12	6	38	3.71	0.31	1.31	5.0	14	13	6	12	nw.	Peter Hardcastle.	
Flemington	Hunterdon	187	12	39.0	1.4	70	10	13	6	35	3.45	-0.68	1.10	2.6	15	13	8	10	nw.	H. E. Deats.	
New Brunswick	Middlesex	61	56	38.2	-0.1	70	10	13	6	36	3.45	-0.47	1.50	4.0	11	12	9	10	nw.	Wm. T. Woerner.	
College Farm	do	100	14	38.3		71	10	12	6	36	3.79	-0.62	1.62	4.0	14	12	11	8	nw.	Geo. B. Thrasher.	
Rumson	do	18	9								3.03		3.0	16	14	9	8		nw.	J. H. Cottrell.	
Lambertville	Hunterdon	95	23	39.0	-0.2	71	10	13	6	36	3.72	-0.28	1.19	4.5	13	12	10	9	nw.	William R. Bowne.	
THE SOUTHERN INTERIOR.																					
Hightstown	Mercer	85	18	38.8	1.8	73	10	11	6	36	4.00	-0.04	1.35	6.2	11	13	8	10	nw.	Ernst Wenger.	
Freshold	Monmouth	187	26								3.79	-0.90	1.80	7.0	11				nw.	F. T. Cooper.	
Trenton	Mercer	60	40	39.9	-2.6	70	10	16	6	30	4.66	-0.33	1.56	4.0	11	12	11	8	nw.	E. R. Cook.	
Imlaystown	Monmouth	106	23	38.6	-1.1	72	10	12	6	34	3.62	-0.67	1.55	6.3	14	13	8	10	nw.	F. C. Price, M. D.	
Lakewood	Ocean	54	8	38.2		73	10	11	6	39	3.97		1.68	3.8	12				nw.	Prof. C. B. Starr.	
Burlington	Burlington	12	17								3.29	-0.71	1.18	4.6	14				nw.	D. S. B. McCoy.	
Rancocas	do	68	23			71	10	19	6		3.14	-0.88	1.10	4.5	11	11	7	13	nw.	Spencer Haines.	
Moorestown	do	71	45	39.3	+1.0	71	10	19	6	32	3.33	-0.49	1.13	5.1	13	13	10	8	nw.	John C. Beans.	
Philadelphia, Pa.	Philadelphia	117	39	41.4	-1.4	71	10	25	5	29	2.92	-0.53	0.79	4.7	13	12	9	10	nw.	U. S. Weather Bureau.	
Haddonfield	Camden	75	1	39.4	-2.2	72	10	19	6	32	3.54	-0.50	1.10	5.8	13	9	14	8	nw.	C. F. Richardson.	
Indian Mills	Burlington	76	9	38.9	-1.7	73	10	11	6	38	3.45	-0.57	1.02	5.0	13	13	9	9	nw.	James Armstrong.	
Clayton	Gloucester	126	13	39.4	-2.8	71	10	17	6	32	4.01	-0.35	1.32	3.0	12	12	9	10	nw.	Wm. T. Farley.	
Hammonilton	Atlantic	80	11								3.50	-0.04	1.26	5.0	15				nw.	Orville Bassett.	
Tuckerton	Ocean	23	12	39.6	-0.8	70	10	18	6	32	4.37	-0.07	1.56	3.5	14	13	10	8	nw.	F. R. Austin.	
Friesburg	Salem	100	17	39.6	-2.8	74	10	13	6	33	3.35	-0.22	1.10	5.2	14	9	13	9	nw.	H. C. Perry.	
Vineland	Cumberland	118	42																nw.	Alfred Chalmers.	
Canton	Salem	24	8								3.08	-0.47	1.03	3.0	11	12	11	8	nw.	J. H. Maskell.	
Bridgeton	Cumberland	30	34	41.4	-0.9	72	10	19	6	33	3.52	-0.90	1.00	3.0	12	12	10	9	nw.	Henry A. Jordan.	
Pleasantville	Atlantic	26	11								2.96	-0.51	1.40	0.5	13				nw.	L. Van Gilder.	
Northfield	do		1								3.61		1.25	1.8	14				nw.	Wm. L. Flick.	
Port Norris	Cumberland	8	1								2.43		0.94	3.0	12				nw.	J. H. Barraclough.	
Woodbine	Cape May	43	18	40.2	-1.2	71	10	20	*5	34	3.33	-0.48	1.25	2.5	12	14	8	9	w.	R. D. Maltby.	
Cape May C. H.	do	19	22	41.2	-0.4	72	10	23	*6	24	3.81	-0.24	1.12	2.5	11	7	16	8	w.	L. T. Garretson.	
THE SEA COAST.																					
Oceanic	Monmouth	16	23	39.0	-0.6	72	10	15	6	35	4.05	-0.34	1.59	4.0	14	14	7	10	nw.	Prof. C. E. Dietz.	
Long Branch	do	30	1	38.8		74	10	17	6	36	4.26		1.88	6.0	11	12	10	9	nw.	B. B. Bobbitt.	
Asbury Park	do	22	21	38.0	-1.1	72	10	19	6	34	2.60	-1.82	1.32	5.0	11	12	9	10	nw.	B. H. Obert.	
Atlantic City	Atlantic	16	36	39.3	-0.5	57	10	23	5	21	3.58	-0.15	1.09	0.3	14	11	9	11	nw.	Section Center.	
Cape May City	Cape May	17	25	40.8	0.0	62	10	26	*5	18	3.34	-0.39	0.94	2.0	13	8	15	8	nw.	U. S. Weather Bureau.	

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observations.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

† The monthly departures from normal temperature and precipitation for Phillipsburg are based on the records of Easton, Pa., and for Haddonfield on the records of the latter station and Camden, N. J.

[illegible]

THE SEA-CAST.



Monthly Mean Isotherms and Prevailing Winds, March, 1909.



## DAILY PRECIPITATION FOR MARCH, 1909.

Stations.	Day of month.																															Total.
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	
THE HIGHLANDS AND KITTATINNY VALLEY.																																
Layton	.17	*	.65						.10	.17			.28											*	1.40		.02	.15		.20		3.14
Sussex	.25	*	.50				.05		*	.45			.15	T.										*	1.00	T.	T.	.01	.05	T.	.16	2.80
Culver's Lake	.12	*	.50				.02		.12	.17			.02	.01	T.		.02			T.	.05			*	1.04	.02	T.	.01	.05	T.	.16	2.31
Newton	.11	*	.60						.46				.05	.03			T.			.06				*	1.05	*	T.	.10		.12		2.58
Charlotteburg	.27	*	.40				T.		*	.24			.17				T.							*	2.70	*	T.	.18		.10		4.06
Pompton Plains	.30	*	.46				T.		*	.15			*	.16						.09				*	.63	1.54	*	.26		.16		3.75
Boonton	.13	*	.22				T.	T.	*	.25			.02	.16			T.			.11				*	.70	1.30	*	.27	T.	.13		3.29
Dover																																
Belvidere	.15	*	.87						.21	.16			.14	.05										*	1.61		.02	.06				3.27
Phillipsburg	T.	.16	*	.92	T.	.01	.02		.11	.04			.14	.02			T.			.08	T.			.06	1.34		.02	.16		.15		3.23
RED SANDSTONE PLAIN.																																
Mahwah	.35	*	.43						*	.18			*	.09										*	1.00	1.68		.21		.10		4.04
River Vale	.85	*	.40						.02	.20			.14							.02	.12			*	1.80	.20		.40		.10		4.25
Paterson	.36	*	.36			T.	T.		.15	.05			.08	T.	T.		T.			T.	.02			*	2.00	.12	*	.31	T.	.13		3.58
Englewood	.39	T.	.43			T.	.03		.19				.12	T.			.01			.03				.04	1.72	T.		.42		.19		3.57
Little Falls																																
South Orange	.44	T.	.29			.08			.08	.01			.06	.05			T.			.02			*	1.70	.03	*	.48	T.	.17		3.47	
Chatham	.46		.25			.03			.10	.19			*	.30						*	.12			*	1.20	.60	*	.40		.15		3.80
Newark	.19	.02	.25			.02	.01		.08	.04			.07	.01			T.		T.	.01			.05	1.60		.06	.30		.19		2.89	
New York, N. Y.	.33	T.	.41			T.	.01		.18	T.			.10	T.			T.		.01				.03	1.63		T.	T.	.35		.13		3.19
Jersey City	.37		.48			T.	.04		.18	T.		T.	.09	.02			T.		.01				.01	1.66	.03	T.	.30		.20		3.32	
Bayonne	.53		.45			T.	.06		.20	.01			.16	.03	T.			.01		.02			*	1.26	T.	T.	.35	T.	.39		3.47	
Bergen Point																																
Elizabeth	.28		.40			.05			*	.28			*	.23			T.		.05				*	*	1.02	*	.38	T.	.19		2.88	
Plainfield	.61	T.	.42			T.	.03		.21	.01			.24	.08			.01		.04				T.	1.55	.10	.01	.35	T.	.15		3.81	
Somerville	.61		.50				.05		.22	.03			.28	.08					.08				*	1.31	.10	*	.30		.15		3.71	
Flemington	.58		.21			.06			.15	.07			.37	.17			.01		.12				*	1.10	.13	.03	.28		.17		3.45	
New Brunswick	.57		.40						.24				.10	.02			.05		.12				*	1.50		*	.45		.12		3.45	
College Farm	.56		.40			.05			.17	.02			.26	.08					.07				*	1.62	.11	*	.35		.10		3.79	
Runyon	.50	T.	.20		*	.10			.15	.02			.24	.03			.01		.04				*	*	1.21	*	.45		.08		3.03	
Lambertville	.67	*	.54			.09			.15	.04			.28	T.	T.		.07		.20			T.	*	1.19		T.	.30		.19		3.72	
THE SOUTHERN INTERIOR.																																
Hightstown	.50		.50			.12			.22	.08			.46	.12					.13					1.35	T.		.38		.14		4.00	
Freehold																																
Trenton	.58	T.	.55			.10			.43	.15			.55	.17	T.		T.		.12			T.	*	1.56		*	.45		T.		4.66	
Imlaystown	.23	*	.41			.23			.13	.10			.43	.02					.04				*	1.55		*	.39		.09		3.62	
Lakewood	.19	*	.78			*	.18		.13	T.			.40	.09									*	1.68	.04		.47		.07		3.97	
Burlington	.13	*	.35			.25			.18	.11			.53	.02					.15				*	1.18			.24		.10		3.29	
Rancocas	.30	T.	.20			.25	T.		.15	.09			.53	T.	T.		T.		.15			T.	.10	1.00	T.	T.	.25		.12		3.14	
Morrisstown	.26	.01	.32			.10	.15		.16	.08			.54	T.			T.		.16			T.	*	1.14	T.	T.	.27		.14		3.33	
Philadelphia, Pa.	.21	.01	.45			.16	T.		.11	.06		T.	.61	T.			T.		.13			T.	.01	.78	T.	.03	.30		.06		2.92	
Haddonfield	.25	.01	.36			.13	.11		.13	.14			.64	T.			T.		.18			T.	.05	1.10	T.	T.	.37		.07		3.54	
Indian Mills	.12	T.	.47			*	.25		.12	.14			.60	.10				.10		.10		T.	*	1.02	.08		.38		.12		3.45	
Clayton	*	.65	.20			*	.10		.40				*	.78								T.	*	1.32			.47		.09		4.01	
Hammonton	.12	*	.42			*	.29		.13	.11			.57	.10					.08				*	1.26	.09		.25	T.	.08		3.50	
Tuckerton	.08	*	.86			*	.23		.18	.12			.68	.10					.08				*	1.56			.43		.05		4.37	
Friesburg	.20	*	.41			.17			.08	T.			.67	.12					.10				*	1.10	.04		.37		.08	.01	3.35	
Vineland																																
Canton	.08	*	.30			.54			.08	T.			.72						T.				*	1.03		*	.27		.06		3.08	
Bridgeton	.20	*	.75			.20			.10				.77						.08				.10	1.00		*	.20		.12		3.52	
Pleasantville	.03	*	.56			.09	.06		.03	.01			.33	.08					.06				.01	1.40			.30		.12		2.96	
Northfield	.08	*	.95			.12	.13		.07	.05			.55	.07					.01				*	1.25			.32		.01		3.61	
Port Norris	.10	*	.50			.25			.08	T.			.18	.02					.06				*	.94			.25		.05		2.43	
Woodbine																																
Cape May C. H.	*	*	1.43			.10	.23		.07				.48						.05				*	1.12			.33	T.			3.81	
THE SEA COAST.																																
Oceanic	.27		.36		*	.12			.17	.10			.39	.14					.09					1.59	.08	*	.56		.18		4.05	
Long Branch																																
Asbury Park	.15	*	.55		*	.09			.12	T.			.28					T.					*	1.32	T.		.04		.05		2.60	
Atlantic City	.05	.24	.77		.29	.01		.09	.03				.58	.05				.05					.02	1.07		T.	.32		.01		3.58	
Cape May City	.03	.50	.57		.26	.06		.04					.36	.06				.03					.22	.94			.25	T.	.02		3.34	

† Precipitation measured in the morning.

T. indicates amount too small to measure.

\* Precipitation included in that of the following day.



U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR APRIL, 1909.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

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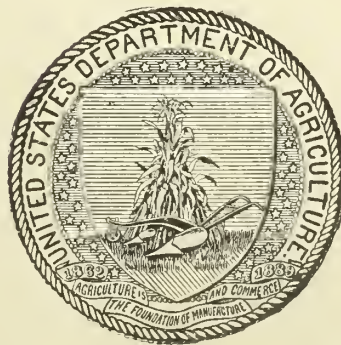
UNDER DIRECTION OF  
WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



ALBANY, N. Y.

WEATHER BUREAU OFFICE

MAY 26, 1909

# Monthly Mean Isotherms and Prevailing Winds, April, 1909.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XXII. ATLANTIC CITY, N. J., APRIL, 1909. No. 4

## GENERAL SUMMARY.

April, 1909, averaged slightly warmer than usual over the greater part of the State, altho unseasonably low night temperatures prevailed during the month. The slight temperature excesses resulted mainly from warm periods occurring about the middle of the first decade and during the latter part of the second decade. There were no important local departures of mean temperature from the normal, except in a few of the southern counties, where excesses ranging from two to three degrees per day were reported. As a rule, the highest temperatures of the month occurred on the 19th in the interior, and on the 7th at the coast stations. The chief cold period extended from the 10th to the 12th, inclusive, during which destructive frosts occurred over practically the entire State. Killing frost also formed in the northern counties on the 25th.

The monthly precipitation was decidedly in excess of the normal, the average being the greatest recorded for April since 1901, and the second greatest on record for this month in a period of 25 years. The actual precipitation exceeded six inches over most of the northern counties, the greatest monthly amounts, eight to nearly nine inches, being received over portions of Bergen and Passaic counties, in the northeast. The greater part of the southern half of the State received monthly amounts ranging from five to about six inches, the region of least precipitation covering the northern portion of Cumberland County, where slightly less than four inches occurred. The light rainfall of the first decade, the heavy to excessive rains occurring near the middle of the month, and the frequency of precipitation during the third decade were noteworthy features of this element, as was also the snow storm of the 29th in the northern counties. This storm deposited from four to eight inches of snow over parts of the extreme northern counties, the snow turning to sleet and rain, with thunderstorms and hail. Trustworthy newspaper articles indicate that a snow storm of like magnitude has not occurred at so late a date in the season in many years.

The cold nights during the month were unfavorable for the growth of vegetation, and the frequent rains of the latter part hindered out-door work. At the close of the month the season was somewhat backward.

The sunshine was nearly normal.

## TEMPERATURE.

The monthly mean, 50.2°, was 0.8° above the normal. The mean maximum was 60.6°, the mean minimum 39.8°, and the mean daily range 20.8°.

The means for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley, 47.7°, -0.2°; Red Sandstone Plain, 50.1°, +0.6°; Southern Interior, 51.9°, +1.5°; Sea Coast, 49.7°, +0.8°.

The highest monthly mean was 53.9°, at Bridgeton, and the lowest, 46.3°, at Dover, the range of monthly mean temperature being 7.6°.

The highest temperature, 88°, occurred at Indian Mills and Lakewood, on the 19th, and the lowest, 17°, at Newton, on the 11th, the range within the State being 71°.

The greatest local monthly range, 70°, occurred at Lakewood, and the least, 41°, at Cape May.

The greatest daily range, 44°, occurred at Indian Mills, on the 6th.

## PRECIPITATION.

The average, 5.97 inches, was 2.51 inches above the normal, the averages for the various districts, with the departures from the normal, being as follows: The Highlands and Kittatinny Valley, 6.50 inches, +3.41 inches; Red Sandstone Plain, 6.61 inches, +3.07 inches; Southern Interior, 5.23 inches, +1.79 inches; Sea Coast, 5.43 inches, +1.94 inches.

The greatest monthly amount, 8.90 inches, occurred at Charlotteburg, and the least, 3.84 inches, at Vineland.

The greatest 24-hour amount, 4.00 inches, occurred at Hammononton, on the 14-15th.

Excessive precipitation (2.50 inches, or more, in 24 consecutive hours, or less) occurred as follows: Hammononton, 14-15th, 4.00 inches; Bergen Point, 13-14th, 3.14 inches; College Farm, 13-14th, 3.10 inches; Hightstown, 14-15th, 3.08 inches; South Orange, 13-14th, 3.00 inches; Dover, 13-14th, 2.90 inches; Cape May Court House, 13-14th, 2.82 inches; Rancocas, 14th, 2.73 inches; Englewood, 14th, 2.71 inches; Indian Mills, 13-14th, 2.70 inches; Jersey City, 14-15th, 2.68 inches; Pleasantville, 13-14th, 2.67 inches; Plainfield, 13-14th, 2.62 inches; Paterson, 13-14th, 2.59 inches; Cape May, 14th, 2.53 inches; Clayton, 13-14th, 2.53 inches; Moorestown, 14-15th, 2.52 inches; Northfield, 14th, 2.51 inches.

The average amounts of snow, unmelted, for the various districts were as follows: The Highlands and Kittatinny Valley, 3.5 inches; Red Sandstone Plain, 0.4 inch; Southern Interior and Sea Coast, trace. The greatest monthly snowfall was 8.0 inches, at Layton.

Measurable precipitation occurred on an average of 13 days.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 10; partly cloudy, 11; cloudy, 9. The following percentages of the possible amount of sunshine were reported: Atlantic City, 56; Hightstown, 51; Jersey City, 52.

## WIND.

Northwest winds prevailed. The highest velocities reported from regular Weather Bureau stations, for five-minute periods, were as follows: Atlantic City, 32 miles per hour, from the south, on the 13th; Cape May, 30 miles, southeast, on the 14th; New York, N. Y., 83 miles, west, on the 7th; Philadelphia, Pa., 38 miles, northwest, on the 7th.

## MISCELLANEOUS PHENOMENA.

*Aurora*.—Plainfield, 28th.

*Meteors*.—Bayonne, 1; Haddonfield, 22d.

*Lightning*.—Haddonfield, 13th, 22d; Indian Mills, Moorestown, 22d.

*Halos, solar*.—Atlantic City, 7th, 8th, 25th; Cape May, 8th, 25th; Indian Mills, 2d, 25th; Moorestown, 26th; Oceanic, 8th.

*Halos, lunar*.—Asbury Park, Bayonne, Haddonfield, Indian Mills, Trenton, 1st; Atlantic City, 1st, 3d, 4th, 28th; Canton, 25th; Cape May, 28th; Cape May Court House, 29th; Jersey City, 1st, 4th, 5th; Lakewood, 1st, 4th; Moorestown, 1st, 5th, 26th, 28th.

*Thunderstorms*.—On the 3d at 6 stations; 6th, 1 station; 9th, 1 station; 19th, 28 stations; 20th, 4 stations; 21st, 11 stations; 22d, 8 stations; 23d, 5 stations; 27th, 1 station; 29th, 23 stations; 30th, 6 stations. Thunderstorms occurred at regular Weather Bureau stations as follows: Atlantic City, 3d, 20th, 21st, 23d, 30th; Cape May, 21st, 23d, 24th.

*Sleet*.—On the 29th, at Asbury Park, Bayonne, Bergen Point, Dover, Englewood, Haddonfield, Hightstown, Immlaystown, Long Branch, Moorestown, Newark, Newton, Oceanic, Paterson, Phillipsburg, Plainfield, Somerville, South Orange, Sussex.

*Hail*.—On the 29th, at Bergen Point, Boonton, College Farm, Culver's Lake, Dover, Elizabeth, Jersey City, Lambertville, Layton, Newark, Paterson, Plainfield, Runyon, Somerville, South Orange; 19th, Charlotteburg; 3d, Hightstown; 9th, 19th, Mahwah; 21st, Moorestown.

*Fog*.—Asbury Park, 6th, 14th; Atlantic City, 6th, 21st; Bayonne, 18th, 19th; Bergen Point, 18th, 30th; Boonton, 19th; Canton, 3d; Cape May, 6th, 14th, 15th, 21st, 22d; Culver's Lake, 30th; Englewood, 19th; Haddonfield, 6th, 17th, 22d; Hammonton, Lakewood, Lambertville, Tuckerton, 6th; Hightstown, 6th, 17th; Jersey City, 18th, 19th; Mahwah, 7th; Oceanic, 6th, 30th; Plainfield, 18th, 19th, 30th; Pompton Plains, 7th, 19th; Somerville, 6th, 19th; Trepton, 6th, 17th.

## CORRECTIONS.

January, 1909, page 5.—Newark, mean temperature, 32.7°, should be 32.6°; departure from the normal, +3.7°, should be +3.6°. Elizabeth, mean temperature, 33.2°, should be 33.0°; departure from the normal, +3.3°, should be +3.1°. Trenton, mean temperature 35.4°, should be 35.6°; departure from the normal, +2.6°, should be +2.8°. Clayton, total snowfall, 7.0 inches, should be 6.0 inches. Page 6: Paterson, minimum temperature, 12th, 29°, should be 27°; mean minimum, 24.4°, should be 24.3°. Newark, minimum temperature, 12th, 30°, should be 28°, 24th, 37°, should be 36°; mean minimum, 24.9°, should be 24.8°. Elizabeth, minimum temperature, 18th, 24°, should be 13°; mean minimum, 26.0°, should be 25.6°. Trenton, maximum temperature, 8th, 25°, should be 30°, 9th, 30°, should be 40°; mean maximum, 43.2°, should be 43.7°.

March, 1909, page 21.—Dover, precipitation, omitted, should be, total, 3.96 inches; departure from the normal, +0.06 inch; greatest in 24 hours, blank; number rainy days, 12.

## MONTHLY AND ANNUAL RANGE OF TEMPERATURE FOR NEW JERSEY, 1885-1908, INCLUSIVE.

Year	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	An'l.
1885	67	56	64	62	61	58	56	55	55†	53	58	54	102
1886	70	74	61	59	51†	50†	50	51	59	67	56	62	108
1887	73	63	53	71	59	55	48	52	60	68	59	56	108
1888	71	65	72	70	64	60	50	57	55†	48†	69	60	111
1889	52	56	48†	58†	62	51	47†	40†	56	59	56	63	98†
1890	66	62	78	65	54	53	62	59	58	57	63	53†	101
1891	49†	70	64	68	65	64	52	54	56	74*	64	62	101
1892	73	51†	58	68	60	54	61	53	57	68	59	67	111
1893	75	64	62	63	66	63	62	53	52	68	59	65	124
1894	65	73	71	78	63	67	62	53	66	66	65	69	117
1895	68	63	65	70	74	64	58	63*	80*	65	68	67	121
1896	68	74	77	86*	63	59	51	66	65	61	66	79*	120
1897	70	65	64	70	58	60	52	50	63	73	64	72	108
1898	74	80	61	68	64	62	63*	56	69	64	59	68	122
1899	81	77	60	70	65	65	60	60	63	68	54†	70	124
1900	69	75	76	64	72	58	62	63	66	73	64	66	113
1901	69	58	83	66	61	68*	62	54	65	61	60	76	115
1902	63	63	77	73	66	62	57	53	63	60	60	73	115
1903	62	86*	66	74	77*	55	62	59	63	62	76*	69	116
1904	92*	81	71	63	66	66	56	70	74*	63	75	134*	134*
1905	76	71	94	66	67	61	60	57	62	73	64	56	120
1906	79	76	77	70	70	60	48	55	61	60	62	75	113
1907	90	77	99*	64	63	65	56	57	61	62	55	67	118
1908	66	82	82	80	66	64	64	67	61	73	70	71	123

\*Greatest on record.

†Least on record.

## COMPARATIVE STATE DATA FOR APRIL.

## DELAYED REPORTS.

March, 1909, Little Falls.—Total precipitation, 4.03 inches; greatest in 24 hours, 1.52 inches; total snowfall, 4.7 inches. Number of rainy days, 13. Prevailing wind direction, north.

March, 1909, Bergen Point.—Temperature, mean, 38.5°; departure from the normal, -1.5°; highest, 70°, on the 10th; lowest, 18°, on the 6th; greatest daily range, 35°. Total precipitation, 3.75 inches; departure from the normal, -0.64 inch; greatest in 24 hours, 1.89 inches; total snowfall, 3.5 inches; number rainy days, 11; clear, 10; partly cloudy, 13; cloudy, 8. Prevailing wind direction, northwest.

March, 1909, Vineland.—Temperature, mean, 39.8°; departure from the normal, -0.4°; highest, 74°, on the 10th; lowest, 15°, on the 6th; greatest daily range, 32°. Total precipitation, 3.16 inches; departure from the normal, -1.02 inches; greatest in 24 hours, 1.12 inches; total snowfall, 3.0 inches. Number rainy days, 14; clear 12; partly cloudy, 10; cloudy, 9. Prevailing wind direction, northwest.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1885	48.4	88	26	2.79
1886	50.6	86	27	3.40
1887	47.3	87	16	2.70
1888	47.9	92	22	3.28
1889	51.2	83	25	5.32
1890	50.4	86	21	2.65
1891	52.0	88	20	2.19
1892	49.3	87	19	2.49
1893	49.2	82	19	5.21
1894	50.3	88	10	3.09
1895	49.1	89	19	4.88
1896	52.4	98	12	1.35
1897	50.4	89	19	3.79
1898	47.8	81	13	3.74
1899	49.9	88	18	1.73
1900	50.8	82	18	2.29
1901	48.3	89	23	6.31
1902	50.2	93	20	3.62
1903	50.9	92	18	3.97
1904	46.7	85	16	3.42
1905	49.9	84	18	2.88
1906	51.2	87	17	3.64
1907	45.2	83	19	3.78
1908	51.2	93	13	2.72
1909	50.2	88	17	5.97



## CLIMATOLOGICAL DATA FOR APRIL, 1909.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.				Sky					Prevailing direction of wind.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelting.	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.		
THE HIGHLANDS AND KITTATINNY VALLEY.																				
Layton	Sussex	550	10	46.6	-0.7	85	19	18	11	43	4.96	-1.98	1.22	8.0	12	10	11	9	sw.	Warren C. Hursh
Sussex	do	442	15	48.3	-0.1	84	19	19	11	38	6.35	3.47	1.33	3.0	15	11	10	9	w.	Prof. W. H. Seeley.
Culver's Lake	do	848	8								5.90		1.93	5.4	16	10	10	10	nw.	B. E. Riker.
Newton	do	678	26	40.8	-0.8	83	19	17	11	42	7.43	4.20	1.60	4.5	14	10	12	8	nw.	B. H. Kienbaum.
Charlotteburg	Passaic	719	17	46.6	+0.1	80	19	19	11	43	8.90	14.91		2.0	15	10	10	10	w.	G. S. Briggs.
Pompton Plains	Morris	195	7								6.79		2.00		13				nw.	M. S. Taylor.
Boonton	do	413	18								6.97	3.18	1.98	2.2	14				nw.	F. G. McIntosh.
Dover	do	575	25	40.3	1.0	83	19	26	11	38	7.14	3.78	2.90	3.0	11	5	16	9		William C. Harris.
Belvidere	Warren	280	19	47.3	0.0	86	19	21	11	41	5.29	2.15	1.51	1.2	12	10	11	9		Samuel J. Hixson.
Phillipsburg	do	196	7	50.0	+0.5	86	19	23	11	36	5.47	12.36	1.37	2.0	14	10	12	8	s.	D. W. Smith.
THE RED SANDSTONE PLAIN.																				
Mahwah	Bergen		7								8.08		1.84	2.0	15				se.	M. F. Brooks.
River Vale (d)	do	70	18	40.8	0.7	85	19	19	12	39	7.35	-3.92	2.10	0.5	15	10	9	11	nw.	G. S. M. Holdrum.
Paterson	Passaic	110	33	50.4	0.1	87	19	23	11	38	6.73	3.32	2.59	0.7	14	7	16	7	se.	H. A. Probert.
Englewood †	Bergen	135	23					19	11		6.14	2.86	2.71	3.0	15	9	11	10	nw.	William C. Tucker.
Little Falls	Passaic	175	7								6.90		2.38	0.2	14				n.	F. Farns.
South Orange	Essex	200	40	48.6	-0.4	82	19	23	11	34	6.95	3.55	3.60	0.5	14	10	10	10	nw.	W. J. Chandler, M. D.
Chatham	Morris	234	7								6.08		2.10	1.0	14				nw.	M. A. Butler.
Newark	Essex	140	65	50.6	1.1	85	19	25	11	34	6.68	1.99	2.02	1.0	13	10	8	12	nw.	Wm. Wiener.
New York, N. Y.	New York	314	39	49.5	-1.4	80	19	24	11	31	5.93	2.63	2.80	T.	15	8	8	14	nw.	U. S. Weather Bureau.
Jersey City	Hudson	15	4	50.8		86	19	25	11	37	6.39		2.68	0.1	14	9	13	8	nw.	Samuel K. Pearson, jr.
Bayonne	do	50	19	49.5	-0.2	85	19	25	11	37	6.06	+2.71	2.46	0.5	14	10	11	9	nw.	John H. Eadie.
Bergen Point †	do	37	12	50.0	-0.9	84	19	25	11	37	7.04		3.14	0.5	15	8	14	8	nw.	Dr. W. H. Mitchell.
Elizabeth	Union	33	30	51.8	-1.1	83	19	25	11	34	5.81	2.32	T.	14	10	9	11	nw.	W. M. Oliver.	
Plainfield	do	100	22	50.0	0.6	85	19	23	11	40	7.23	3.48	2.62	T.	15	7	15	8	sw.	John Neagle.
Somerville	Somerset	76	30	50.5	+1.5	87	19	23	11	42	6.16	2.87	2.00	T.	15	10	9	11	nw.	Peter Hardcastle.
Flemington	Hunterdon	187	12	50.5	-0.9	84	19	24	*11	39	6.16	+2.77	1.63	T.	13	10	12	8	sw.	H. E. Deats.
New Brunswick	Middlesex	61	56	50.2	-0.5	84	19	23	*11	40			T.						nw.	Wm. T. Woerner.
College Farm	do	100	14	50.4	-0.7	83	19	23	*11	40	7.25	+3.83	3.10	T.	15	10	11	9	nw.	Geo. B. Thrasher.
Rumyon	do	18	9								6.56		T.		13				nw.	J. H. Cottrell.
Lambertville	Hunterdon	95	23	51.1	0.8	84	19	24	11	39	5.33	+1.99	1.84	T.	11	10	12	8	nw.	William R. Bowne.
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	18	51.0	+0.9	85	19	22	11	40	6.07	+2.11	3.08	T.	13	12	7	11	nw.	Ernst Wenger.
Freehold	Monmouth	187	26																nw.	F. T. Cooper.
Trenton	Mercer	60	40	52.0	-0.1	85	19	23	11	32	6.66	3.09	2.23	T.	11	9	10	11	nw.	E. R. Cook.
Imhustown	Monmouth	106	23	51.6	+1.1	86	19	24	11	37	6.99	3.69		T.	13	13	7	10	nw.	F. C. Price, M. D.
Lakewood	Ocean	54	8	50.6		88	19	18	12	43	5.62		1.88	0	14				nw.	Prof. C. B. Starr.
Burlington	Burlington	12	17								4.87	+1.36	2.09	T.	11				nw.	D. S. B. McCoy.
Rancocas †	do	68	23								5.58	+2.46	2.73	T.	12	12	6	12	nw.	Spencer Haines.
Moorestown	do	71	45	51.8	+1.9	84	19	25	11	35	5.45	+2.31	2.52	T.	11	11	8	11	s.	John C. Beans.
Philadelphia, Pa.	Philadelphia	117	39	53.2	+2.4	84	19	29	11	30	4.49	+1.58	2.19	0	12	11	6	13	nw.	U. S. Weather Bureau.
Haddonfield †	Camden	75	1	52.2	-0.1	87	19	25	*11	37	4.14	+0.81	1.85	T.	11	11	11	8	nw.	C. F. Richardson.
Indian Mills	Burlington	76	9	52.5	+3.0	88	19	23	11	44	5.28	+2.26	2.70	0	12	12	10	8	nw.	James Armstrong.
Clayton	Gloster	126	13	52.6	+2.5	85	19	25	11	36	4.60	+1.56	2.53	0	10	10	12	8	s.	Wm. T. Farley.
Chammonton	Atlantic	80	11								5.60	+1.82	4.00	0	12				nw.	Orville Bassett.
Tuckerton	Ocean	23	12	50.6	2.4	82	7	24	11	30	5.17	+1.86	1.60	0	12	11	8	11	nw.	F. R. Austin.
Friesburg	Salem	100	17	52.2	+2.0	84	19	25	11	36	4.36	+1.01	2.37	0	11	10	10	10	s.	H. C. Perry.
Vineland †	Cumberland	118	42	52.5	-2.0	84	19	24	11	34	3.84	-0.52	2.12	0	14	10	11	9	nw.	Alfred Chalmers.
Canton	Salem	24	8								4.29	+0.70		0	10	10	10	10	nw.	J. H. Maskell.
Bridgeton	Cumberland	30	34	53.9	+1.2	85	19	26	11	39	3.99	+0.50	2.14	T.	11	10	8	12	nw.	Henry A. Jorden.
Pleasantville †	Atlantic	26	11								5.35	+2.40	2.67	0	13				nw.	L. Van Gilder.
Northfield	do		1								4.86		2.51	0	13				nw.	Wm. L. Flick.
Port Norris	Cumberland	8	1								5.81		2.05	0	11				nw.	J. H. Barraclough.
Woodbine	Cape May	43	18																nw.	R. D. Maltby.
Cape May C. H.	do	19	22	51.8	+1.4	77	7	26	11	30	5.15	+1.92	2.82	0	12	9	12	9	s.	L. T. Garretson.
THE SEA COAST.																				
Oceanic	Monmouth	16	23	50.2	-0.4	87	19	25	12	42	5.71	+2.19	2.40	T.	13	10	12	8	s.	Prof. C. E. Dietz.
Long Branch	do	30	1	50.0		84	19	25	11	39	6.24		1.43	T.	12	10	10	10	sw.	B. B. Bobbitt.
Asbury Park	do	22	21	48.8	+0.1	78	7	25	11	32	5.88	+2.25	1.73	T.	13	10	10	10	e.	B. H. Obert.
Atlantic City	Atlantic	16	36	49.1	+1.5	71	7	26	11	24	4.54	+1.55	2.26	0	13	8	9	13	s.	Section Center.
Cape May City	Cape May	17	25	50.6	-2.2	71	7	30	11	23	4.76	-1.77	2.53	T.	12	12	6	12	s.	U. S. Weather Bureau.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observations.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\*Occurred on more than one date.

†Report not received in season to be considered in averages.

‡The monthly departures from normal temperature and precipitation for Phillipsburg are based on the records of Easton, Pa., and for Haddonfield on the records of the latter station and Camden, N. J.

[illegible]



# Total Monthly Precipitation, April, 1909.



## DAILY PRECIPITATION FOR APRIL, 1909.

Stations.	Day of month.																															Total.
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	
THE HIGHLANDS AND KITTATINNY VALLEY.																																
Layton		.04	.10										*	1.22					.09	.52	.23	.18	.56						.30	.95	.77	4.96
Sussex		T.	.25	.25					.02				*	1.30	.58				.10	.05	.27	.32	.55			.05			.38	.30	1.32	6.35
Cuiver's Lake		.01	.18	.04		.01			.01				T.	1.03	.39				.14	.71	.30	.24	.54		T.	.09			.42	1.03	.77	5.90
Newton		.04	.16			.01			T.				*	1.40	.50				1.13	1.03	.45	.52				.03	.29		1.60	.07	7.23	
Charlotteburg			*	.37					.03				*	*	3.45				*	*	2.30		.43		.08		*	.47	*	1.77	8.90	
Pompton Plains			.02	.25					T.				*	.73	2.00				*	.32	.59	.62	.43				*	.41	*	1.42	6.79	
Boonton		.03	.30						T.				*	.74	1.98				*	.33	.59	.59	.40		.02		.39		*	1.64	6.97	
Dover		*	.36						*				*	2.90					.02	1.15	.32	.40					.34		1.25	.47	7.14	
Belvidere		*	.35						T.				*	1.51					.73	.27	.20	.48					.28	.66	.87	5.29		
Phillipsburg		.07	.02			.08			T.				.29	.95	.65				T.	.88	.38	.10	.41		T.		.14	.13	*	1.37	5.47	
RED SANDSTONE PLAIN.																																
Mahwah		*	*	.26					.04				*	1.02	1.81				*	1.44	.82	.45	.44				*	.36	*	1.47	8.08	
River Vale		*	.20						.15				*	2.10	.85				*	1.45	.90	.40	.35				*	.15	.10	.77	7.35	
Paterson		T.	*	.08		T.			T.				*	2.59	.62				*	.59	.14	.39	.38		T.		*	.41	.61	.92	6.73	
Englewood		.03	.06	.04									.06	2.71	.31				.17	.71	.16	.19	.31				.14	.19	.76	.38	6.14	
Little Falls		.02	*	.18									*	.90	2.38					.25	.51	.52	.44				*	.45	*	1.22	6.90	
South Orange		T.	*	.24		T.			T.				*	3.00	.60				.10	.50	.20	.16	.32				*	.43	.30	1.10	6.95	
Chatham		.04	.19										*	.70	2.10				*	.20	.35	.40	.44				*	.36	*	1.38	6.08	
Newark		T.	.15						T.				.05	2.02	.82				.35	.58	.34	.16	.30		T.		.36	.19	.92	.44	6.68	
New York, N. Y.		.01	.05	.02					T.				.04	2.64	.25				.19	.65	.18	.18	.30				.12	.19	.86	.21	5.93	
Jersey City		T.	.02	.07		T.			T.				*	2.58	.60				.20	.64	.11	.29	.34				.01	.39	.62	.55	6.39	
Bayonne		T.	.01	.14		T.			T.				*	2.46	.51				.06	.80	.11	.27	.30				*	.36	.52	.55	6.06	
Bergen Point		.01	.01	.21									*	3.14	.37				.36	.77	.12	.29	.30				*	.42	.52	.55	7.04	
Elizabeth		*	.21						*				*	*	2.61				*	.79	*	.36	.35				*	.40	*	1.06	5.81	
Plainfield		.03	.30	.12		T.							.01	2.62	.39				.28	.87	.15	.35	.36				.04	.42	.45	.84	7.23	
Somerville		.04	.11	.05									.02	2.00	.43				.05	1.10	.15	.34	.40				*	.36	.36	.72	6.16	
Flemington		T.	.34										.02	1.63	.62				*	1.10	.20	.38	.35		.04	T.	.34	.29	.82		6.16	
New Brunswick																																
College Farm		.01	.05	.10		T.							*	3.10	.63				*	.99	.17	.27	.35				*	.35	.43	.86	7.25	
Rumson		T.	.08										*	.91	3.27				.21	.91	*	.21	.24				*	.27	*	1.37	6.56	
Lambertville		T.	.28			T.			T.				.02	1.84					*	1.08	.19	.41	.34					.24	.05	.82	5.33	
THE SOUTHERN INTERIOR.																																
Hightstown			.05	.09										2.86	.22				.07	.77	.10	.42	.31				*	.39	.03	.76	6.07	
Freehold														2.23	.55				T.	.88	.27	.45	.41				.45		.30	.86	6.66	
Trenton		*	.03		T.								*	*	3.30				*	.63	*	1.74	.23				*	.30	.01	.70	6.99	
Imlaystown		*	.17	.04					.19					1.88	.88					.67	.13	.40	.16				*	.51	*	.65	5.62	
Lakewood		T.	.23		T.	T.							.57	2.09					.03	.57	.52	*	.34	T.			.14		*	.38	4.87	
Burlington		T.	.28						T.				.02	2.73	.28				T.	.40	.75	.22	.37		T.		.03	.25	.01	.24	5.58	
Rancocas		T.	.29						T.				T.	2.30	.49				T.	.57	.06	.85	.33		T.		.02	.17	.01	.34	5.45	
Morristown		T.	.30			T.			T.				.09	2.11	.12				T.	.64	.51	.07	.32				.03	.02	.26	.02	4.49	
Philadelphia, Pa.			.35										.01	1.85	.53				T.	.54	.06	T.	.31				*	.15	.01	.27	4.14	
Haddonfield		T.	*	.20				.14					T.	2.70	.72					.53	.13	.12	.17				*	.47		.10	5.28	
Indian Mills		*	T.										*	2.53	.45					.75	.07	.27	.27				*	.20		.06	4.60	
Clayton			.24					.12					*	*	4.00				*	.45	.24	.13				*	.34		.08	5.60		
Hammononton		.34	.10					.30						1.60	.90					.90	.27	.10	.16				*	.32		.18	5.17	
Tuckerton		T.	.07										*	2.37	.43					.68	.06	.21	.29				.10	.12	*	.03	4.36	
Friesburg		.03	.01					.22					.06	2.12	.37					.24	.39	.06	.09				*	.18	*	.07	3.84	
Vineland		T.				T.							*	*	2.94				*	.75	*	.29					*	.29	T.	.02	4.29	
Canton		T.	.10					.12					.34	1.38	.86					.40	.12		.28				*	.34		.05	3.99	
Bridgton		.10	.30					.31						2.67	.40					.60	.14	.06	.07				.10	.20	*	.40	5.35	
Pleasantville		.05	.32					.27						2.51	.52				.49	.12	.04	.04					.05	.27	*	.18	4.66	
Northfield		.03	T.					.10					.05	2.05	1.75					.60	.55	T.	.28				.05	.30		.05	5.81	
Port Norris																																
Woodbine																																
Cape May C. H.		T.	.14					.30					*	2.82	.32					.63	.30	.05	.08				*	.39		.12	5.15	
THE SEA COAST.																																
Oceanic		*	.18	.11					T.					1.46	.94					.76	.10	.68	.15				*	.37	.10	.86	5.71	
Long Branch		*	.19					.23					T.	1.43	1.08					.82	.12	.98	.14				*	.53	T.	.72	6.24	
Asbury Park		*	.24					.15					T.	1.73	.65					.70	.12	.66	.10				*	.57	.02	.94	5.88	
Atlantic City		.14	.17					.35					T.	2.26	.05					.58	.20	.03	.11			T.	.15	.25	.04	.21	4.54	
Cape May City		.13	T.					.25	T.				.19	2.53	.10					.68	.15	.01	.04				.14	.19		.35	4.76	

\*Precipitation measured in the morning.

\*Precipitation included in that of the following day.

T. indicates amount too small to measure.



U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR MAY, 1909.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

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PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF

WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



ALBANY, N. Y.

WEATHER BUREAU OFFICE

JUNE 19, 1909

# Monthly Mean Isotherms and Prevailing Winds, May, 1909.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION,

LEVI A. JUDKINS, Section Director.

VOL. XXII. ATLANTIC CITY, N. J., MAY, 1909. No. 5

## GENERAL SUMMARY.

May, 1909, averaged slightly cooler than usual over the greater part of the State. The local deficiencies of daily mean temperature were not specially marked in any portion of the State, and there were small excesses at a few stations in the interior and on the southeastern coast. Unseasonably low night temperatures prevailed most of the month, as was the case during April, 1909. The warm periods of the month, occurring about the middle of the first and second decades, and at the close of the last decade, were moderate and of brief duration. The longest cool spell of the month extended from the 18th to about the 25th. The lowest temperatures were recorded at most stations on the 2d and 3d, freezing temperature and destructive frosts being reported on the 3d in the mountain districts of the north and in parts of the western counties. Light frost was also reported on the 12th in portions of the Delaware River counties and the northern interior. The monthly extremes of temperature were well within the May records of previous years.

The monthly precipitation was decidedly below the normal, except on the southeastern coast, where there was an average excess of about 1.50 inches. Precipitation, while deficient for the State as a whole, was quite well distributed through the month, and there was no complaint of lack of moisture. Frequent showers occurred during the first decade, rainfall on the 1st being moderately heavy in the southeast. The second decade was generally dry over the southern half of the State, and only light showers occurred over the northern half. There were two storm periods in the third decade, the first covering the 21st-23d, and the second the 27th-28th, the heaviest rains of the month being received on the 21st-22d. High northeast winds and unusually high tides attending the storm of the 21st-22d caused considerable damage to property along the eastern coast. As compared with the normal, the most marked deficiency in rainfall was reported from stations in the northeastern part of the State, where the monthly amounts, generally less than two inches, were only about 50 per cent of the May average. Over the counties bordering on the Delaware River the deficiency in precipitation was somewhat less marked, the monthly totals ranging generally from two to about three and one-half inches. The immediate southeastern coast received from about four to nearly five inches of rain during the month.

The month was free from local storms of severity.

The sunshine averaged about 58 per cent of the possible, and was nearly normal.

## TEMPERATURE.

The monthly mean, 60.0°, was 0.6° below the normal. The mean maximum was 70.8°, the mean minimum 49.3°, and the mean daily range 21.5°.

The means for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley, 58.5°, -0.8°; Red Sandstone Plain, 60.0°, -0.8°; Southern Interior, 61.4°, -0.5°; Sea Coast, 59.1°, -0.1°.

The highest monthly mean was 63.2°, at Bridgeton, and the lowest, 56.4°, at Charlotteburg, the range of monthly mean temperature being 6.8°.

The highest temperature, 91°, occurred at Indian Mills on the 15th, and the lowest, 27°, at Layton, on the 3d, the range within the State being 64°.

The greatest local monthly range, 59°, occurred at Lakewood and Somerville, and the least, 37°, at Cape May City.

The greatest daily range, 43°, occurred at Charlotteburg, on the 13th, and at Layton, on the 31st.

## PRECIPITATION.

The average, 2.30 inches, was 1.71 inches below the normal, the averages for the various districts, with the departures from the normal, being as follows: The Highlands and Kittatinny Valley, 2.54 inches, -1.68 inches; Red Sandstone Plain, 1.82 inches, -2.34 inches; Southern Interior, 2.46 inches, -1.50 inches; Sea Coast, 2.97 inches, -0.40 inch.

The greatest monthly amount, 4.84 inches, occurred at Cape May City, and the least, 0.79 inch, at River Vale.

The greatest 24-hour amount, 2.05 inches, occurred at Atlantic City, on the 21st-22d.

Excessive precipitation occurred as follows: Bridgeton, 7th, 0.86 inch in 25 minutes.

Measurable precipitation occurred on an average of 9 days.

## SUNSHINE AND CLOUDINESS.

The average number of clear days was 10; partly cloudy, 11; cloudy, 10. The following percentages of the possible amount of sunshine were reported: Atlantic City, 61; Hightstown, 57; Jersey City, 55.

## WIND.

Northwest winds prevailed. The highest velocities reported from regular Weather Bureau stations, for five-minute periods, were as follows: Atlantic City, 38 miles per hour, from the northeast, on the 22d; Cape May, 36 miles, northeast, on the 22d; New York, N. Y., 48 miles, northeast, on the 22d; Philadelphia, Pa., 33 miles, northwest, on the 11th.

## MISCELLANEOUS PHENOMENA.

*Auroras*.—Cape May Court House, Indian Mills, Moorestown, Somerville, 15th.

*Meteors*.—Indian Mills, 5th; Oceanic, 16th, 23d; Somerville, 12th.

*Hail*.—Bridgeton, Canton, Clayton, Haddonfield, Moorestown, Rancocas, 7th; Cape May, 27th; Culver's Lake, 15th; Sussex, 14th.

*Halos, lunar.*—Indian Mills, 3d; Oceanic, 25th; Moorestown, Rancocas, 3d, 25th.

*Halos, solar.*—Atlantic City, 5th, 8th, 10th, 13th; Cape May Court House, Jersey City, Oceanic, Rancocas, 8th; Indian Mills, 5th, 19th, 28th; Moorestown, 5th, 8th, 28th; Vineland, 31st.

*Lightning.*—Haddonfield, 15th; Indian Mills, Paterson, 6th; Moorestown, 6th, 15th, 16th; Oceanic, 28th; Rancocas, 6th, 27th.

*Thunderstorms.*—On the 1st at 8 stations; 6th, 10 stations; 7th, 29 stations; 10th, 5 stations; 14th, 12 stations; 15th, 7 stations; 16th, 21st, 22d, 25th, at 1 station on each date; 27th, 10 stations; 28th, 12 stations. Thunderstorms occurred at regular Weather Bureau stations as follows: Atlantic City, 1st, 27th, 28th; Cape May City, 1st, 16th, 27th.

*Fog.*—Asbury Park, Canton, Flemington, Haddonfield, Hightstown, Long Branch, Moorestown, Trenton, 9th; Atlantic City, 8th, 9th, 27th; Bayonne, Boonton, Pompton Plains, 9th, 28th; Cape May City, 1st, 8th, 9th, 17th, 27th; Clayton, Vineland, 17th, Englewood, Oceanic, 1st, 9th; Imlaystown, 9th, 17th; Jersey City, 1st, 28th; Plainfield, 1st, 9th, 27th, 28th; Rancocas, 1st.

#### AURORA OF MAY 15.

An auroral display, lasting from about 9.00 p. m. until 12 Midnight, was observed at several stations in the central and southern portions of the State on the 15th. From a description of the phenomenon, furnished by Mr. John C. Beans, cooperative observer at Moorestown, N. J., the following facts are obtained.

The aurora was first observed as a luminous patch, having an altitude of from 25° to 37° and an azimuth of from 200° to 225°. From above a dark segment of the crown distant lightning was seen at intervals. Stars, however, gradually became visible through this segment. The auroral glow was remarkably bright at times. From time to time other luminous patches appeared to the east and west of the original glow, forming part of a high auroral arc. No streamers were visible, nor was any flashing or flickering observed. The display ended rather abruptly about 11.45 p. m.—R. W. G.

#### REMARKS BY OBSERVERS.

LAYTON.—The nights were unseasonably cool throughout the month, a minimum temperature of 32° being recorded on the 12th, and 33° on the 24th.—W. C. HURSH.

DOVER.—The month was cooler than usual, and there was a considerable amount of foggy and wet weather. Vegetation was progressing fairly well at the close of the month, however.—W. C. HARRIS.

PHILLIPSBURG.—The monthly rainfall, although decidedly deficient, was received at timely intervals, and was sufficient for the needs of vegetation.—D. W. SMITH.

MOORESTOWN.—A heavy frost deposit occurred on the morning of the 3d, injuring tender vegetation to some extent. Otherwise the frost was harmless.—JOHN C. BEANS.

BRIDGETON.—A heavy thunderstorm, attended by high wind and some hail, occurred late in the afternoon of the 7th. The rainfall was excessive, 0.86 inch falling in 25 minutes.—H. A. JORDEN.

#### GREATEST MONTHLY AMOUNTS OF PRECIPITATION FOR NEW JERSEY, 1887-1908, INCLUSIVE.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1887.....	6.65	6.74	5.45	3.77	3.82	10.29	15.29	7.34	6.25	5.00	2.60	7.32
1888.....	6.74	6.01	8.22	4.68	6.48	5.69	7.03	10.53	10.65	7.00	5.41	4.95
1889.....	8.78	3.80	6.49	7.25	6.60	6.75	18.58	9.06	13.13*	5.03	11.45*	3.69
1890.....	3.22	5.32	7.92	4.58	7.17	5.16	7.55	7.51	8.61	10.18	1.10	5.74
1891.....	10.55*	7.20	8.02	3.80	5.39	6.71	9.41	8.89	5.91	5.57	3.47	5.32
1892.....	7.05	3.62	7.21	4.41	6.52	6.12	7.96	5.65	3.78	1.04	9.49	3.09
1893.....	4.56	8.90	6.26	7.12	6.38	7.02	4.63	11.94	5.38	6.59	4.53	4.66
1894.....	3.80	6.17	2.65	4.86	15.61*	5.90	5.00	9.28	11.05	8.23	5.12	6.39
1895.....	5.80	2.31	4.66	7.75	3.95	5.99	7.73	5.06	2.71	5.53	5.10	5.42
1896.....	2.81	10.06*	7.38	2.30	4.54	13.45	13.29	3.27	8.74	4.58	5.68	2.70
1897.....	4.21	6.37	4.32	6.98	9.11	5.50	20.80*	8.69	3.97	6.49	5.95	6.44
1898.....	5.90	5.45	4.25	4.94	9.26	3.54	11.72	9.28	3.87	8.42	9.07	4.85
1899.....	5.73	8.77	9.58*	3.25	3.45	4.34	9.02	9.70	9.61	4.65	4.32	4.30
1900.....	5.50	7.88	4.96	3.03	7.33	4.91	7.21	4.56	7.37	6.59	5.54	3.97
1901.....	4.00	1.65	8.07	10.22*	8.13	4.36	10.92	15.10	6.82	4.45	4.23	9.45*
1902.....	4.35	8.44	7.20	5.99	4.63	10.21	9.92	10.67	8.95	9.35	4.17	8.99
1903.....	5.04	6.60	8.53	7.03	1.32	15.02*	10.14	14.54	7.10	10.19*	2.03	5.49
1904.....	4.67	3.09	4.76	4.71	6.69	5.44	8.06	13.01	10.08	7.01	3.40	5.38
1905.....	7.13	3.06	5.06	4.03	3.49	8.71	8.19	9.88	9.18	4.83	2.86	5.60
1906.....	3.86	3.85	6.77	6.42	6.28	9.18	13.25	17.91*	4.66	7.14	2.52	6.18
1907.....	5.80	3.90	4.38	8.67	8.09	6.85	6.42	7.61	12.95	7.18	6.95	7.13
1908.....	5.22	7.44	4.92	3.86	9.99	4.63	8.12	9.23	4.13	5.14	1.29	5.20

\*Greatest on record.

#### LEAST MONTHLY AMOUNTS OF PRECIPITATION FOR NEW JERSEY, 1887-1908, INCLUSIVE.

Year.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1887.....	2.00	4.13	2.19	0.91	0.08†	4.21	1.95	2.09	1.62	1.58	0.95	3.64
1888.....	2.80	2.04	3.75	1.89	3.00	1.67	1.25	2.55	3.75	2.97	2.66	2.05
1889.....	3.84	1.65	1.98	2.92	2.43	2.39	4.66	1.93	3.17	2.42	4.70	0.25†
1890.....	1.05	2.43	4.14	1.89	2.60	0.99	3.60	2.89	2.59	3.40	0.38	2.34
1891.....	4.41	3.70	2.05	1.39	1.78	1.24	3.03	2.58	0.90	1.88	1.54	2.25
1892.....	2.50	0.67	3.11	1.05	3.26	1.58	2.38	0.72	1.02	0.16†	4.74	1.30
1893.....	1.87	3.14	2.42	2.97	2.55	0.46†	1.26	3.55	1.93	1.74	2.19	1.67
1894.....	1.18	3.25	1.09	1.71	3.57	0.99	0.15†	0.15†	3.69	3.90	1.77	1.64
1895.....	2.48	0.55†	1.77	3.47	1.66	0.93	1.53	0.35	0.22	1.62	1.56	1.71
1896.....	0.68†	4.82	3.14	0.64	1.62	2.64	2.45	0.50	2.26	1.27	1.37	0.85
1897.....	1.70	2.38	1.55	2.17	1.71	2.12	6.11	2.07	0.21†	0.87	2.42	3.07
1898.....	2.79	1.55	2.56	2.17	3.92	1.13	2.23	2.70	0.65	3.92	3.63	2.38
1899.....	2.40	3.78	3.45	0.48†	1.15	1.01	3.24	2.21	2.88	1.07	1.72	1.29
1900.....	2.37	3.27	2.48	1.59	2.53	1.10	1.11	0.70	1.09	1.47	1.82	1.47
1901.....	1.35	0.69	2.40	3.46	3.10	0.73	1.89	4.68	1.63	0.87	1.18	4.87
1902.....	2.52	4.29	3.16	2.45	1.11	4.54	1.83	1.31	3.11	3.12	0.87	5.81
1903.....	2.31	3.74	3.60	2.40	0.08†	2.39	3.08	4.30	1.39	4.17	0.75	3.20
1904.....	1.34	1.36	2.02	2.00	1.01	1.91	2.41	2.05	0.89	1.50	1.30	2.06
1905.....	2.68	0.70	2.80	1.53	0.42	1.67	1.67	3.51	2.87	0.75	0.54	2.58
1906.....	2.08	1.77	2.91	1.17	2.37	1.45	3.44	2.21	0.75	2.66	1.06	2.70
1907.....	1.93	1.82	1.81	2.06	2.51	3.15	0.95	1.79	3.55	2.70	4.19	3.55
1908.....	2.29	2.85	1.06†	1.42	4.39	0.77	1.97	2.43	0.95	1.30	0.35†	2.10

†Least on record.

#### COMPARATIVE STATE DATA FOR MAY.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1885.....	57.3	90	29	2.62
1886.....	58.8	87	36	6.07
1887.....	63.3	94	35	1.37
1888.....	58.6	90	26	4.92
1889.....	62.3	94	32	4.09
1890.....	60.7	87	33	4.24
1891.....	59.5	93	28	2.97
1892.....	60.1	90	30	5.04
1893.....	59.4	95	29	4.07
1894.....	61.4	93	30	7.72
1895.....	60.9	102	28	2.85
1896.....	65.3	98	29	3.21
1897.....	60.6	87	29	5.68
1898.....	58.5	93	29	6.00
1899.....	61.1	94	29	1.92
1900.....	60.9	98	26	4.71
1901.....	58.6	90	29	5.70
1902.....	60.3	95	29	2.04
1903.....	62.7	98	21	0.59
1904.....	62.8	97	31	2.60
1905.....	51.4	89	22	1.71
1906.....	61.0	94	24	4.21
1907.....	55.4	91	22	5.05
1908.....	61.6	95	29	6.10
1909.....	60.0	91	27	2.30



## CLIMATOLOGICAL DATA FOR MAY, 1909.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.					Sky.				Prevailing direction of wind.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall (unmelted).	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.		
THE HIGHLANDS AND CATTARAUGUS VALLEY.																				
Albion	Sussex	550	10	56.5	-1.2	84	6	27	3	43	2.99	-0.10	0.64	0	8	11	9	11	S.	Warren C. Hursh
Albion (1)	do	442	15	60.6	+0.5	87	15			39	2.66	-1.31		0	12	10	12	9	W.	Prof. W. H. Seeley.
Albion's Lake	do	848	8								3.77		0.94	T.	12	10	10	11	nw.	B. E. Riker.
Canton	do	678	26	58.2	-1.1	85	15	33	2	40	2.18	-2.03	0.47	0	10	10	11	10	nw.	B. H. Kleinbaum.
Charlotteburg	Passaic	719	17	56.4	-1.1	84	15	32	*3	43	2.56	-1.96	0.60	0	9	10	10	11	sw.	G. S. Briggs.
Clinton Plains	Morris	195	7								2.25		0.63	0	11					M. S. Taylor.
Clinton	do	413	18								1.95	-2.64	0.55	0	12				nw.	F. G. McIntosh.
Cover	do	575	25	57.2	-1.4	85	15	35	2	38	2.55	-1.65	0.56	0	12	4	15	12		William C. Harris.
Columbia	Warren	489	19	59.2	-1.6	86	*14	30	*2	40	2.04	-1.93	0.35	0	8	11	12	8		Samuel J. Hixson.
Phillipsburg (c)	do	196	7	61.6	+0.5	90	15			37	2.41	-1.78	0.84	0	10	10	9	12	sw.	D. W. Smith.
THE RED SANDSTONE PLAIN.																				
Albion	Bergen	70	7								1.98		0.47	0	10				nw.	M. F. Brooks.
Albion (1)	do	110	18	57.7	-1.2	86		32	*2	42	0.79	-3.73	0.16	0	9				nw.	G. S. M. Holdrum.
Albion	Passaic	135	23	60.5	-0.8	87	*6	37	3	38	1.27	-3.55	0.58	0	8	7	15	9	nw.	H. A. Probert.
Albion	Bergen	175	33	57.0	-2.8	82	*6	36	3	34	1.76	-2.30	0.69	0	11	10	7	14	ne.	William C. Tucker.
Albion	Passaic	200	40								1.67		0.70	0	10				w.	F. Fearn.
Albion	Essex	234	7	59.5	-0.8	83	15	35	3	31	1.35	-2.17	0.50	0	10	11	11	9	nw.	W. J. Chandler, M. D.
Albion	Morris	140	65								2.23		0.60	0	10				w.	M. A. Butler.
Albion	Essex	314	39	60.7	+0.1	85	*14	39	2	32	1.84	-2.23	0.54	0	8	10	11	10	nw.	Wm. Wiener.
Albion	New York	15	4	61.6		87	31	39	*2	31	1.46		0.86	0	10	9	14	8	ne.	U. S. Weather Bureau.
Albion	Hudson	50	19	59.8	-1.1	85	31	37	*3	33	1.62	-2.37	0.84	0	11	11	10	10	se.	Samuel K. Pearson, jr.
Albion	do	37	12	60.0	-0.1	83	*6	37	*2	36	1.85	-2.32	0.63	0	11	9	14	8	sw.	John H. Eadie.
Albion	Bergen Point	33	30	62.0	-0.2	88	14	37	*2	32	1.50	-2.51		0	7	10	10	11	sw.	Dr. W. H. Mitchell.
Albion	Union	100	22	59.8	-0.9	88	15	33	3	38	2.09	-2.06	0.46	0	12	6	16	9	sw.	W. M. Oliver.
Albion	do	76	30	6.06	-0.2	89	15	30	3	40	1.98	-2.11	0.50	0	11	10	11	10	sw.	John Neagle.
Albion	Hunterdon	187	12	60.4	-0.6	90	15	32	3	40	3.04	-1.35	0.59	0	12	10	10	11	w.	Peter Hardcastle.
Albion	Middlesex	61	56	59.8	-0.7	87	15	36	2	40	1.36	-2.60	0.50	0	7	10	11	10	sw.	H. E. Deats.
Albion	do	100	14	60.4	-0.9	85	15	36	2	34	2.01	-1.86	0.72	0	10	10	10	11	nw.	Wm. T. Woerner.
Albion	do	18	9												10	10	10	11	nw.	Geo. B. Thrasher.
Albion	Hunterdon	95	23	60.4	-1.3	88	15	32	3	37	3.01	-1.54	0.68	0	10	11	9	11	sw.	J. H. Cottrell.
Albion	do																			William R. Bowne.
THE SOUTHERN INTERIOR.																				
Albion	Mercer	85	18	60.6	-0.8	89	15	33	3	37	2.13	-2.26	1.03	0	7	12	12	7	sw.	Ernst Wenger.
Albion	Monmouth	187	26																sw.	F. T. Cooper.
Albion	Mercer	60	40	61.4	-1.5	86	15	36	3	34	2.57	-1.54	0.74	0	5	6	17	8	sw.	E. R. Cook.
Albion	Monmouth	106	23	61.4	-0.8	90	15	34	3	37	1.87	-2.12	0.67	0	8	10	11	10	sw.	Prof. C. B. Starr.
Albion	Ocean	54	8	59.4		88	15	29	3	42	2.33			0	7				w.	D. S. B. McCoy.
Albion	Burlington	12	17								2.35	-2.38	1.07	0	8				w.	Spencer Haines.
Albion	do	68	23								2.36	-1.72	1.03	0	8	10	12	9	nw.	John C. Beans.
Albion	Philadelphia, Pa.	71	45	61.1	+0.1	86	15	36	3	33	2.25	-1.82	0.85	0	9	11	9	11	nw.	U. S. Weather Bureau.
Albion	Camden	117	39	63.2	-1.0	89	15	42	2	28	2.67	-0.53	1.36	0	7	10	11	10	sw.	C. F. Richardson.
Albion	Burlington	75	1	61.7	-0.7	88	*15	34	3	35	2.46	-1.89	0.67	0	8	9	12	10	w.	James Armstrong.
Albion	Gloucester	76	9	61.3	-0.9	91	15	33	3	42	1.94	-1.20	0.42	0	8	10	10	11	sw.	Wm. T. Farley.
Albion	Atlantic	126	13	61.9	+0.4	89	15	35	3	38	2.46	-0.73	0.63	0	7	11	10	10	w.	Orville Bassett.
Albion	Ocean	80	11								2.24	-1.88	0.43	0	8					F. R. Austin.
Albion	Salem	23	12																	H. C. Perry.
Albion	Cumberland	100	17	61.7	+0.1	88	15	37	12	37	2.55	-1.15	0.85	0	7	10	10	11	w.	Alfred Chalmers.
Albion	do	118	42	62.1	0.0	90	15	34	3	37	2.69	-1.11	0.66	0	8	10	10	11	s.	J. H. Maskell.
Albion	Salem	24	8								2.39	-1.86	0.54	0	7	10	10	11		Henry A. Jorden.
Albion	Cumberland	30	34	63.2	-1.4	90	*6	35	3	40	2.84	-1.28	0.86	0	8	10	11	10	w.	L. Van Gilder.
Albion	Atlantic	26	11								2.69	-0.76	1.10	0	7					Wm. L. Flick.
Albion	do		1								3.15		1.41	0	7					J. H. Barracough.
Albion	Cumberland	8	1								1.92		0.50	0	7					R. D. Maltby.
Albion	Cape May	43	18											0						L. T. Garretson.
Albion	do	19	22	61.2	+0.5	85	15	40	3	29	3.49	-0.22	1.25	0	7	11	10	10	se.	
THE SEA COAST.																				
Albion	Monmouth	16	23	59.6	-1.2	85	6	37	3	34	1.75	-2.22	0.51	0	10	10	12	9	nw.	Prof. C. E. Dietz.
Albion	do	30	1	59.8		85	6	36	3	37	2.37		1.16	0	7	10	12	9	sw.	B. B. Bobbitt.
Albion	do	22	21	57.8	-1.2	85	6	38	2	36	1.75	-2.29	0.90	0	7	10	10	11	e.	B. H. Obert.
Albion	Atlantic	16	36	58.6	+1.1	85	16	42	2	26	4.13	+1.13	2.05	0	6	6	11	14	sw.	Section Center.
Albion	Cape May	17	25	59.5	+0.9	82	*15	45	2	22	4.84	+1.80	1.60	0	7	8	14	9	s.	U. S. Weather Bureau.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from stations that have ten or more years of observations.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

|| The monthly departures from normal temperature and precipitation for Phillipsburg are based on the records of Easton, Pa., and for Haddonfield on the records of the latter station and Camden, N. J.

### Stations.

[illegible]



# Total Monthly Precipitation, May, 1909.



## DAILY PRECIPITATION FOR MAY, 1909.

Stations.	Day of month.																															Total.
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	
THE HIGHLANDS AND KITTATINNY VALLEY.																																
Layton	.35		.18				.64			.44				.42	.59	.20												.17	T.			2.99
Sussex																					.02	.33						.23	.14			3.77
Culver's Lake	.44	T.		.19	T.		.94			.19	.30			.10	.15	.74					.04	.42		.04				.33	.12			2.18
Newton	.42		.10				.13			.47				.17	.11						.04	.42			.04			.33	.12			2.56
Charlotteburg	.13		.11				.14			.40				.17	*						.85						.16	.60				2.25
Pompton Plains	.37			.02			.15			.18				*	.32						.63	.12					.25	.21				1.95
Boonton	.35			.03			.09			.32				*	.18	.08					.55	.05					.25	.05				2.55
Dover	.43		.07			.02	.14			.56				.14	.02	.03					*	.70	.05				.37	.07				2.04
Belvidere	.34			.12			.12			.18											*	.76					.35	.17				2.41
Phillipsburg	.23			.08	T.		.17			.34	.02			.04							.41	.14					T.	.84	.14			
RED SANDSTONE PLAIN.																																
Mahwah	.47									.24				*	.15	.10					*	.45	.37				*	.20				1.98
River Vale	.12						.07			T.				*	.10						*	.10	.14				.16	.10				0.79
Paterson	.29		T.		T.		T.		T.	T.				*	.07	.08					.08	.58		T.			.15	.02				1.27
Englewood	.08				.06	T.	.03		T.	.01				.11	.02						.49	.69	.07	T.			.19	.01				1.76
Little Falls	.48					T.	.03			.01				.14	T.	.01					*	.70	.11				.16	.03				1.67
South Orange	.15				T.	.02	.05		T.	T.				.03	.10						.30	.50	.06				.13	.01	T.			1.35
Chatham	.55						.24			.05				.10	.12						*	.60	.25				.22	.10				2.23
Newark	.31				T.	.03	T.							.14	T.						.53	.54	.02				.14	.13				1.84
New York, N. Y.	.08			.03			.01		T.	.01				.14	.01						.55	.67	.04	T.			.17	.01				1.72
Jersey City	.21			.02		T.	.01		.01					.14	.03						.31	.55	.06	T.			.12	T.				1.46
Bayonne	.30			.02		T.	.05		.01					.13	.02						.28	.56	.01	T.			.09	.15				1.62
Bergen Point	.27			.03			.04		.05					.11	.03						.30	.63	.05	T.			.11	.23				1.85
Elizabeth	.24					T.	T.		T.	T.				.08	T.						*	.79				.20	.19					1.50
Plainfield	.34			.02		T.	.16	.23		.05				.03	.05						.36	.46	.12	T.			.24	.03				2.09
Somerville	.32			.05			.27		.05					.01	.02						.26	.50	.08				.30	.18				1.98
Flemington	.52			.02		T.	.05	.25		.06		.04		T.	.04						.12	.59	.03				.53	.29				3.04
New Brunswick	.10						.06			T.	.02			.08							.50	.35					.25	T.				1.36
College Farm	.35						.26		.01	.03					.03						.22	.72	.06				.28	.05				2.01
Runyon																																
Lambertville	.33			T.		.02	T.	.48			.63	.08									.15	.68	T.	T.	.08		.44	.12				3.01
THE SOUTHERN INTERIOR.																																
Hightstown	.33						.31			.07											*	.10	.07				.25					2.13
Freehold																					.46	.74				.42	T.					2.57
Trenton	.50						.45			T.				T.							*	.77				.19	.04					1.87
Imlaystown	.31		.02				.40			.14				T.							*	.69	.10			.10						2.33
Lakewood	.23			.03		T.	.18														*	.10				.27						2.35
Burlington	.23		.03		.03		.58			.04											.10	.10				.24	.01					2.36
Rancocas	.37			.03			.03			.03				T.	.01						.40	.25	T.				.24	.01				2.25
Moorestown	.32			.02			.77			.05	T.										.43	.46	.02				.17	.01	T.			2.67
Philadelphia, Pa.	.33				T.		T.	.66		.06				T.							.10	.31	.01			T.	.24	T.				2.46
Haddonfield	.47				T.		T.	.41		.04	T.										.43	.67	.02				.40	.02				1.94
Indian Mills	.27						.42			T.	.28										.24	.30	.03				.18	.22				2.46
Clayton	.28				T.		.63			.21											.80						.27	.27				2.24
Hammonton	.40						.18			.20											*	*	.80				.43	.23				2.55
Tuckerton																																2.60
Friesburg	.57				T.		.26			.15											.35	.02					.35	.85				2.39
Vineland	.41				T.		.17			.24											.21	.62	.04				.66	.34				2.84
Canton	.41				T.		T.	.39		.11											*	.52					.42	.54				2.69
Bridgeton	.50						.86		.05	.22											.25	.20					.40	.36				3.15
Pleasantville	.42				T.					.20											.40	.10	.05				.15	.37	T.			1.92
Northfield	.67				T.					.26											.28	.41	.05				.14	.34	T.			3.49
Port Norris	.50						T.			.27											*	*	.70		T.	T.	.05	.40				
Woodbine																																
Cape May C. H.	.98									.45											.25	.25	.19				.11	.26				3.49
THE SEA COAST.																																
Oceanie	.24				.04		.10		T.	.02					.05						.23	.51	.07				.39	.10				1.75
Long Branch	.35				.20		.13		T.	T.					T.						.22	.16	.14				.17	T.				2.37
Asbury Park	.21				.05		.09														.25	.90	.09				.16	T.				1.75
Atlantic City	.81									.76											.01	.19	.03				.33	T.				4.13
Cape May City	.13							T.		.37											T.	.98	.71	.04			T.	.60	.01			4.84

\* Precipitation measured in the morning.

T. indicates amount too small to measure.



U. S. DEPARTMENT OF AGRICULTURE

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REPORT FOR JUNE, 1900.

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NEW JERSEY SECTION

OF THE

CLIMATOLOGICAL SERVICE

OF THE

WEATHER BUREAU

PUBLISHED BY AUTHORITY OF THE SECRETARY OF AGRICULTURE

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UNDER DIRECTION OF

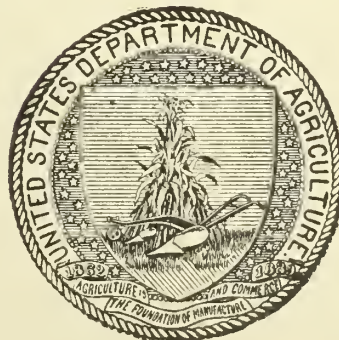
WILLIS L. MOORE

CHIEF U. S. WEATHER BUREAU

BY

LEVI A. JUDKINS

SECTION DIRECTOR



ALBANY, N. Y.

WEATHER BUREAU OFFICE

JULY 16, 1900

Monthly Mean Isotherms and Prevailing Winds, June, 1909.





U. S. DEPARTMENT OF AGRICULTURE,

## CLIMATOLOGICAL SERVICE

OF THE

## WEATHER BUREAU.

CENTRAL OFFICE: WASHINGTON, D. C.

NEW JERSEY SECTION.

LEVI A. JUDKINS, Section Director.

XXII. ATLANTIC CITY, N. J., JUNE, 1909.

No. 6

## New Form of Publication.

With this issue the publication of the monthly climatological of this Section ends. The data from this section will in future be printed in the Weather Review, issued monthly from the Central Office at Washington, D. C., in similar form, so that the number of stations showing the daily temperature records will be somewhat limited.

A plan has been adopted as a means of placing before those interested in such matters the complete climatic data for certain defined areas which, according to the present manner of publication, can only be found in the reports from several divisions.

The country has been divided into twelve great divisions, outlined chiefly according to drainage areas, and the entire data for each division will be brought together and published in compact form for use of those interested in climatic data.

Twelve separates containing data for the entire country will finally be brought together to form a single publication.

Persons now receiving the monthly summaries will be supplied, if desired, with separates of the division in which they are located. The complete Review, being a comprehensive compilation of the principal features of the weather of each month, will be furnished to cooperating meteorological bureaus, libraries, etc., upon direct application to the Chief of the U. S. Weather Bureau, Washington, D. C.

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 N. J., climatological data for, August, September, 1907.  
 n, N. J., climatological data for, June, July, 1907.  
 Cape May Court House, N. J., climatological data for,  
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NOTE.—The Index for the issues prior to 1906 may be found in the Annual Summary for 1905.

## GENERAL SUMMARY.

Features of June, 1909, were the generally cool weather of the first and second decades, the excessive heat of the third decade, the large amount of cloudiness, and the frequency of rain.

The local departures of monthly mean temperature from the normal were moderate as a rule, a slight excess being reported for the State as a whole, notwithstanding the prevailing cool weather of the first twenty days. There were a few brief periods with summer temperatures in the first and second decades, but generally the temperature was near, or below, the normal until the beginning of the third decade. An abrupt change to decidedly warmer weather then occurred, and, as was the case during June of 1908, the warm wave continued practically without interruption throughout the remainder of the month, the daily maximum temperatures being above 90° in the interior much of the time from the 21st to the 30th. The first two decades were characterized by unseasonably low night temperatures, the lowest occurring generally on the 19th, when light frost was observed in the extreme northwestern portion of Sussex County. High night temperatures prevailed during the third decade.

The monthly precipitation averaged about one-half of an inch below the June normal. The distribution of rainfall throughout the month was favorable, and the geographical distribution was rather more uniform than is usual at this season. The greatest monthly amounts of rain, four to nearly six inches,

occurred over the counties bordering on Delaware Bay, in portions of the extreme northeastern counties, and restricted portions of Monmouth County, a marked excess being reported from parts of Cape May County. The region of least monthly precipitation included the greater parts of Monmouth and Ocean counties, where slightly less than two inches were received. Over the remainder of the State the rainfall ranged from about two inches to slightly more than 3.75 inches. Although rain occurred frequently during the month, the 24-hour amounts were generally small, except that showers and thunderstorms were locally heavy in the northern counties on the 17th, and in the southern counties on the 27th-28th.

Local storms of severity, causing some damage to property, occurred in Hudson County on the 25th, and in Cape May, Cumberland, and Somerset counties on the 27th. In Jersey City, lightning caused the death of one person, on the 25th.

The monthly sunshine, averaging slightly less than 60 per cent of the possible, was somewhat below the normal.

#### TEMPERATURE.

The monthly mean, 70.0°, was 0.8° above the normal. The mean maximum was 80.2°, the mean minimum 59.9°, and the mean daily range 20.3°.

The means for the various districts, with the departures from the normal, were as follows: The Highlands and Kittatinny Valley, 67.7°, +0.3°; Red Sandstone Plain, 70.1°, +1.0°; Southern Interior, 70.9°, +0.9°; Sea Coast, 69.1°, +0.7°.

The highest monthly mean was 73.0°, at Bridgeton, and the lowest, 66.4°, at Layton, the range of monthly mean temperature being 6.6°.

The highest temperature, 99°, occurred at Somerville, on the 25th, and the lowest, 36°, at River Vale, on the 19th, the range within the State being 63°.

The greatest local monthly range, 60°, occurred at River Vale, and the least, 39°, at Cape May Court House.

The greatest daily range, 43°, occurred at Layton, on the 1st.

#### PRECIPITATION.

The average, 3.26 inches, was 0.55 inch below the normal, the averages for the various districts, with the departures from the normal, being as follows: The Highlands and Kittatinny Valley, 3.48 inches, -0.54 inch; Red Sandstone Plain, 3.27 inches, -0.69 inch; Southern Interior, 3.27 inches, -0.43 inch; Sea Coast, 2.66 inches, -0.71 inch.

The greatest monthly amount, 5.70 inches, occurred at Cape May Court House, and the least, 1.71 inches, at Runyon.

The greatest 24-hour amount, 2.98 inches, occurred at Canton, on the 27th-28th.

Excessive precipitation occurred as follows: Canton, 27th-28th, 2.98 inches; Jersey City, 27th, one inch in 40 minutes.

Measurable precipitation occurred on an average of 12 days.

#### SUNSHINE AND CLOUDINESS.

The average number of clear days was 9; partly cloudy, 10; cloudy, 11. The following percentages of the possible amount of sunshine were reported: Atlantic City, 57; Hightstown, 55; Jersey City, 58.

#### WIND.

Southwest winds prevailed. The highest velocities reported from regular Weather Bureau stations, for five-minute periods, were as follows: Atlantic City, 25 miles per hour, from the northeast, on the 6th; New York, N. Y., 43 miles, west, on the 18th; Philadelphia, Pa., 27 miles, southeast, on the 17th.

#### MISCELLANEOUS PHENOMENA.

*Lightning*.—Haddonfield, 28th.

*Hail*.—Culver's Lake, Newark, 25th.

*Halos, lunar*.—Oceanic, Paterson, 3d.

*Meteors*.—Haddonfield, 16th; Vineland, 20th.

*Rainbows*.—Imlaystown, 28th; Jersey City, Paterson, 25th; Plainfield, 14th.

*Halos, solar*.—Imlaystown, 12th, 17th; Jersey City, 12 h; Oceanic, 3d, 18th; Rancocas, 3d, 12th, 14th, 17th.

*Thunderstorms* (dates and number of reports).—2d, 4; 3d, 1; 5th, 5; 13th, 3; 14th, 13; 15th, 2; 17th, 14; 18th, 5; 22d, 7; 23d, 4; 24th, 3; 25th, 26; 26th, 3; 27th, 28; 28th, 21; 29th, 1.

*Fog*.—Asbury Park, 2d, 4th, 11th, 13th, 17th; Atlantic City, 2d, 4th, 5th, 11th, 12th, 13th, 17th; Bayonne, Plainfield, Trenton, Tuckerton, 10th; Haddonfield, 12th; Hightstown, 28th; Imlaystown, 6th; Jersey City, 4th; Newark, 11th; Oceanic, 5th, 28th; Pompton Plains, 13th, 14th.

#### DELAYED REPORTS.

Runyon, May, 1909.—Total precipitation, 1.46 inches, on 7 days.

Tuckerton, May, 1909.—Temperature, mean, 60.0°; departure from the normal, +0.3°; highest, 91°, 15th; lowest, 36°, 12th; greatest daily range, 36°. Total precipitation, 3.92 inches; departure from the normal, +0.36 inch; greatest in 24 hours, 2.30 inches. Number of rainy days, 7; clear, 10; partly cloudy, 12; cloudy, 9. Prevailing wind direction, southeast.

#### CORRECTIONS.

May, 1909, page 35.—Under the heading "Temperature," insert "and Tuckerton" after "Indian Mills," 11th line. Under the heading "Precipitation," the greatest 24-hour amount should be 2.30 inches, at Tuckerton, on the 22d, instead of 2.05 inches, at Atlantic City, on the 21st-22d.

#### COMPARATIVE STATE DATA FOR JUNE.

Year.	Temperature.			Average precipitation.
	Mean.	Highest.	Lowest.	
1886.....	66.3	91	41	3.03
1887.....	68.2	97	42	6.77
1888.....	70.8	104	38	2.59
1889.....	69.9	92	37	3.73
1890.....	70.7	95	42	3.59
1891.....	64.7	102	38	2.92
1892.....	72.4	98	44	3.85
1893.....	69.7	103	40	2.95
1894.....	70.6	102	35	2.28
1895.....	71.7	103	39	3.44
1896.....	68.1	97	37	5.46
1897.....	66.1	95	35	3.38
1898.....	70.1	100	38	2.10
1899.....	72.3	103	38	2.50
1900.....	70.4	97	39	3.08
1901.....	70.0	103	35	1.57
1902.....	67.5	99	37	6.57
1903.....	64.0	92	37	7.68
1904.....	68.0	100	34	3.13
1905.....	68.3	96	35	3.43
1906.....	70.4	98	38	4.48
1907.....	64.7	96	31	4.41
1908.....	69.9	99	35	2.12
1909.....	70.0	99	36	3.26



CLIMATOLOGICAL DATA FOR JUNE, 1909.

Stations.	Counties.	Elevation, feet.	Length of record years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.					Sky				Observer.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snow in (melted).	Number rainy days.	Number clear days.	Number partly cloudy days.	Number cloudy days.		Prevailing direction of wind.
THE HIGHLANDS AND KITTATINNY VALLEY.																				
Layton	Sussex	550	10	66.4	+1.0	92	25	37	19	43	2.80	-1.36	1.56	0	7	10	8	12	SW.	Warren C. Horsh.
Sussex (d)	do	442	15	67.0	0.3	91	25	45	*16	30	4.12	0.41	1.06	0	12	10	10	10	W.	Prof. W. H. Seeley.
Onlver's Lake	do	848	8								3.78		1.11	0	15	10	10	10	SW.	B. E. Riker.
Newton	do	678	26	67.9	0.2	92	*24	45	10	35	3.31	-0.50	1.12	0	12	10	10	10	SW.	B. H. Kienbaum.
Charlotteburg	Passaic	719	17	66.9	1.8	91	27	41	*16	40	4.24	-0.03	2.25	0	8	10	10	10	SW.	G. S. Briggs.
Pompton Plains	Morris	195	7								1.03		1.32	0	14					M. S. Taylor.
Boonton	do	413	18								2.71	-0.98	0.99	0	15				NW.	F. G. McIntosh.
Dover	do	575	25	67.3	-0.2	93	*22	43	19	35	3.88	-0.25	1.96	0	11	6	15	9		William C. Harris.
Belvidere	Warren	289	19	68.6	-0.6	93	25	44	19	39	2.60	-1.55	0.92	0	8	10	8	12		Samuel J. Hixson.
Phillipsburg	do	196	7	69.9	-0.3	94	26	47	19	35	3.75	-0.03	1.18	0	13	10	9	11	W.	D. W. Smith.
THE RED SANDSTONE PLAIN.																				
Mahwah	Bergen	7	7								5.58		1.90	0	11				NW.	M. F. Brooks.
River Vale (d)	do	70	18	67.5	0.2	96	26	36	19	41				0					NW.	G. S. M. Holdrum.
Paterson	Passaic	110	33	70.8	0.8	97	25	47	19	35	2.58	-1.79	0.49	0	14	7	13	10	NW.	H. A. Probert.
Englewood	Bergen	135	21											0						William C. Tucker.
Little Falls	Passaic	175	7								3.04		0.50	0	16				W.	F. Fearn.
South Orange	Essex	200	40	68.6	0.8	92	25	47	19	28	3.02	0.55	0.90	0	12	10	12	8	W.	W. J. Chandler, M. D.
Chatham	Morris	234	7								4.24		0.95	0	14				SW.	M. A. Butler.
Newark	Essex	140	65	71.8	+2.5	94	25	51	19	27	3.92	+0.29	1.09	0	11	8	13	9	NW.	Wm. Wiener.
New York, N. Y.	New York	314	39	70.5	-2.0	92	25	53	19	44	3.17	-0.09	0.70	0	12	7	12	11	SW.	U. S. Weather Bureau.
Jersey City	Hudson	15	4	72.0		96	25	52	19	28	4.04		1.51	0	9	7	15	8	SW.	Samuel K. Pearson, Jr.
Bayonne	do	50	19	70.2	+0.5	95	*25	51	19	29	3.69	0.16	0.95	0	14	11	11	8	W.	John H. Fadie.
Bergen Point	do	37	12											0						Dr. W. H. Mitchell.
Elizabeth	Union	33	30	72.2	1.2	98	25	50	19	34	2.78	-0.84	0.69	0	11	11	9	10	NW.	W. M. Oliver.
Plainfield	do	100	22	69.6	+0.3	96	25	43	19	38	3.64	-0.14	0.79	0	16	13	8	9	SW.	John Neagle.
Somerville	Somerset	76	30	71.1	1.5	99	25	42	19	36	3.15	-0.75	1.18	0	13	10	10	10	SW.	Peter Harcastle.
Flemington	Hunterdon	157	12	70.2	+0.8	96	26	47	19	36	2.92	-1.24	0.52	0	13	10	9	11	SW.	H. E. Deats.
New Brunswick	Middlesex	61	56	70.2	-0.6	98	26	44	19	37	2.60	-1.19	0.45	0	10	10	10	10	SW.	Wm. T. Woerner.
College Farm	do	100	14	70.6	1.8	96	26	45	19	34	2.23	-1.11	0.42	0	12	10	8	12	SW.	Geo. B. Thrasher.
Rumson	do	18	9								1.71		0.29	0	9					J. H. Cottrell.
Landertville (b)	Hunterdon	95	23	70.2	0.0	93	*25	45	19	32	3.24	1.07	0.74	0	12	10	11	9	SW.	William K. Rowne.
THE SOUTHERN INTERIOR.																				
Hightstown	Mercer	85	18	70.4	+1.1	96	25	43	19	35	2.30	-1.51	0.47	0	11	12	9	9	SW.	Ernst Wenger.
Freehold	Monmouth	187	26											0						F. T. Cooper.
Trenton	Mercer	60	40	70.7	-0.5	94	25	50	19	27	3.71	0.18	0.85	0	10	6	16	8	SW.	E. R. Cook.
Inlaystown (a)	Monmouth	106	23	71.4	-0.7	98	25	45	19	37	2.20	-1.72	0.46	0	11	9	9	12	SW.	F. C. Price, M. D.
Lakewood	Ocean	54	8	69.2		93	*22	43	19	32	1.78		0.57	0	11					H. R. Major.
Burlington	Burlington	12	17								2.67	-1.46	0.50	0	11				NW.	D. S. B. McCoy.
Rancocas	do	68	23								2.23	1.71	0.78	0	11	10	7	13	NW.	Spencer Haines.
Moorestown	do	71	45	70.6	-0.4	93	26	49	19	29	2.34	-1.49	0.55	0	15	11	8	11	SW.	John C. Beams.
Philadelphia, Pa.	Philadelphia	117	39	72.8	-1.6	94	25	54	19	24	2.26	-1.04	0.72	0	13	5	13	12	S.	U. S. Weather Bureau.
Haddonfield (d)	Camden	75	1	71.4	0.6	95	25	50	*16	34	2.50	-1.00	0.74	0	15	7	15	8	SW.	C. F. Richardson.
Indian Mills	Burlington	70	9	71.0	+0.4	97	25	42	19	38	2.08	-2.05	0.58	0	14	11	10	9	SW.	James Armstrong.
Clayton	Gloucester	126	13											0						Wm. T. Farley.
Hammonton	Atlantic	80	11								3.06	0.15	1.05	0	16					Orville Bassett.
Thickerton (b)	Ocean	23	12	70.2	-1.8	95	*25	44	19	31	3.80	0.36	1.50	0	11	10	10	10	SW.	F. R. Austin.
Friesburg	Salem	100	17	70.8	1.1	95	26	45	19	31	3.45	-0.55	0.75	0	13	7	12	11	W.	H. C. Perry.
Vineland (b)	Cumberland	118	42	72.2	-0.6	97	25	49	16	32	3.06	-0.53	0.75	0	14	10	9	11	SW.	Alfred Chalmers.
Canton	Salem	24	8								5.54	1.73	2.98	0	11	10	11	9		J. H. Maskell.
Bridgeton	Cumberland	30	34	73.0	-0.3	97	*25	48	19	32	4.42	0.91	2.00	0	12	10	8	12	SW.	Henry A. Jorden.
Pleasantville	Atlantic	26	11								3.22	-0.24	0.98	0	14					L. Van Gilder.
Northfield	do		1								4.39		1.41	0	15					Wm. L. Flick.
Port Norris	Cumberland	8	1								4.72		1.80	0	12					J. H. Barraclough.
Woodbine (a)	Cape May	43	18	70.6	2.0	93	27	49	7	28				0		11	9	10	S.	R. D. Maltby.
Cape May C. H.	do	19	22	70.2	-0.4	90	27	51	7	23	5.70	3.01	2.00	0	16	10	9	11	SE.	L. T. Garretson.
THE SEA COAST.																				
Oceanic	Monmouth	16	23	70.0	-0.5	96	25	52	7	28	4.20	-0.29	1.29	0	15	10	9	11	NW.	Prof. C. E. Dietz.
Long Branch	do	30	1	69.0		91	25	48	19	29	2.12		0.58	0	10	10	8	12	SW.	B. B. Bobbitt.
Asbury Park	do	22	21	68.5	-0.3	91	24	50	19	28	1.82	-1.89	0.70	0	10	10	8	12	SE.	B. H. Obert.
Atlantic City	Atlantic	16	36	68.2	1.4	91	24	51	19	24	2.49	0.54	1.14	0	17	5	10	15	SW.	Section Center.
Cape May City	Cape May	17	25											0						U. S. Weather Bureau.

All records are used in determining state (or district) means, but the mean departures from normal temperature and precipitation are based only on records from station that have ten or more years of observations.

Letter of the alphabet following the name of a station indicates the number of days missing from the temperature record; thus (a), 1 day; (b), 2 days, etc.

\* Occurred on more than one date.

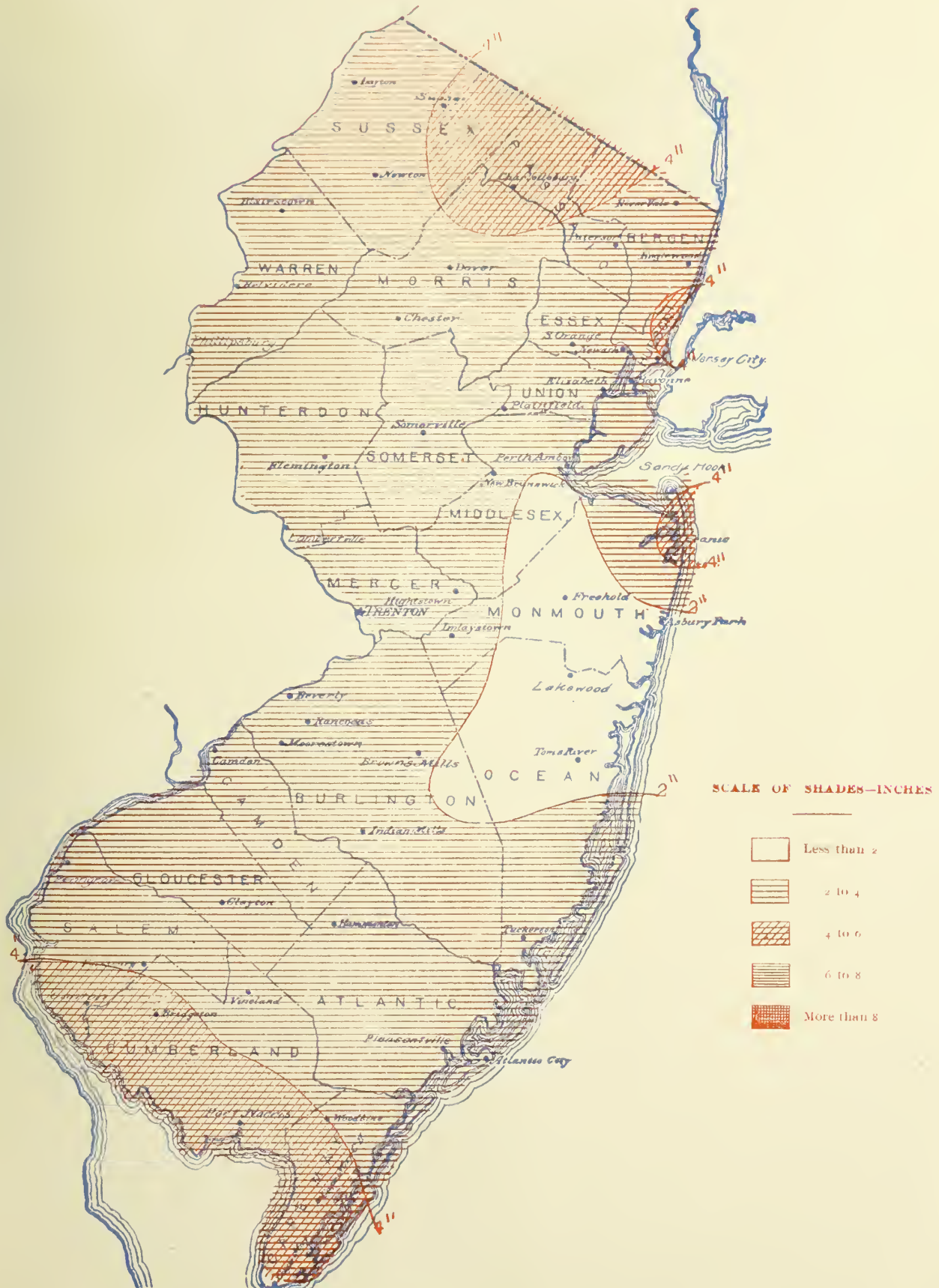
The monthly departures from normal temperature and precipitation for Phillipsburg are based on the records of Easton, Pa., and for Haddonfield on the records of the latter station and Camden, N. J.

[illegible]

Oceanic .....  
Long Branch .....  
Shore Park .....  
Atlantic City .....  
The May City .....



# Total Monthly Precipitation, June, 1909.



## DAILY PRECIPITATION FOR JUNE, 1909.

Stations.	Day of month.																															Total.	
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.		
THE HIGHLANDS AND KITTATINNY VALLEY.																																	
Layton			*	34					38	.05					33	1.50																2.80	
Sussex	.05		.28	.49					43	.04	.05		.07	.11	.42	1.60									.39							4.12	
Cuiver's Lake	.07	.01	.39	.43					38	.10	.05		.10	.15	.32	1.11						T.	.03		.60		.01	.03				3.78	
Newton	.21	.01	.27	.34					31	.10			.24	.11		1.12							.06		.35		.10					3.31	
Charlotteburg	.08		*	.51					*	.45						2.25									.80			.15				4.44	
Pompton Plains	.04		T.	.34	.06				.10	.27	.03		*	.28		1.32						.05		.74		.14	.26					3.03	
Boonton		.03	.07	.48	.32				.03	.42	.03		*	.18		*	.99					.03		.02		.06	.05					2.71	
Dover	.04		.55	.40					.30	.06			.22			1.96						.03		.01		.29	.02					3.88	
Belvidere			.36						48	T.	.05		.49	.06		.92						.11					.13					2.60	
Phillipsburg	.73	.04	.34	.16	T.				51	.04	.01		.28	T.		.02	1.18					.18	T.		.03		.23					3.75	
RED SANDSTONE PLAIN.																																	
Mahwah	.08		*	.20	.28				.03	.38			.48			*	1.84							1.90			.39					5.58	
River Vale		.05	.15	.20					34	.10			.04										.20			.18						†	
Paterson	.08	.02	.47	.10	.10				43	.02	.03		.07	.31		.49						.04		.17		T.	.25					2.58	
Englewood																																	
Little Falls	T.	.10	.02	.48	.26				.12	.31	.02		*	.38	.01	*	.50					.10		.43		.04	.27					3.04	
South Orange	.14	T.	.90	.30					.39	.02			.30	.03		.36						.05	T.		.31		.15	.07					3.02
Chatham	*	.12	.05	.95	.15				T.	.52	.15		*	.62		*	.55					.18		.65		.10	.20					4.44	
Newark	.05	T.	.09	.13					.84	.05			.33			.24	.09					.14		.77		.19						3.92	
New York, N. Y.	.19	T.	.67	.09	T.				.11	.01			.51	T.	.01	.21	.02					T.		.40		.58	.07					3.17	
Jersey City	.14	T.	.65	.13					.36	T.			.40	T.		*	.21					T.		.64		1.51	T.					4.04	
Bayonne	.18	.01	.65	.12					.42	.01			.13	.23	.01	*	.24					T.		.49		.95	.25					3.69	
Bergen Point																																	
Elizabeth	.15		*	.79					*	*	.44		*	.34	T.		.17							.20		.69	T.					2.78	
Plainfield	.15	.05	.54	.38					.41	.02	.01		.51	.02		*	.35					.02	.07	.32		.77	.02					3.64	
Somerville	.18	.07	.35	.08					.30	T.	.02		.06	.41		*	.37					.03	T.			.18	.10					3.15	
Flemington	.18	.14	.42	.11					.39	.01	.02		.02	.37		.50						T.	.03			.52	.21					2.92	
New Brunswick	.16		.45	.25					.36	.03			.40	.05		.40						T.				.45	.05					2.60	
College Farm	.14	.03	.38	.17					.42	.01	T.		.10	.25		T.	.35					T.		.12		.20	.06					2.23	
Runyon	.27	T.	*	.59					.25		T.		.08	.06	T.	.29							.11		T.		.06					1.71	
Lambertville	.47		.42	.05		.59			.38	.05			.30		.08	.02						.09				.74	.05					3.44	
THE SOUTHERN INTERIOR.																																	
Hightstown	.12	.02	.31	.11					.47		.08		.10	.35	.10	.42											.22					2.30	
Freehold																																	
Trenton	.31	T.	.58	*	.11				.44	.15			.39	.33		.85								T.		.55						3.71	
Imharrystown	.24	.05	*	.46					.43	.31			.12	.11		.34							.01		.13							2.20	
Lakewood	*	.09	.57	.03					.48	.05	.06		.06	.15	T.	*	.29															1.78	
Burlington	.06	.12	.27	T.				.33	.31	.15			.14	.59	T.	*	.50									.02	.18					2.07	
Rancocas	.12	.01	.38	T.				.01	.50	.28	T.		.20	.25	T.	*	.40							T.	.06		.02	T.				2.23	
Moorestown	.17	.01	.43	.02				.04	.55	.29	.02		.11	.13	.08	.41						T.	.03	T.		.04	.01					2.34	
Philadelphia, Pa.	T.	T.	.16	.06	.01			.04	.69	.12	.01		.19	.28		.45						.02	.02		.21	T.						2.26	
Haddonfield	.02	.01	.36	.12				.02	.74	.19	.02		.07	.29	.12	.45							T.	.04		.03	.02					2.50	
Indian Mills	.13	T.	.20	.03				.05	.58	.07	.05		.05	.13	.17	.45							T.	.03		.10	.04					2.08	
Clayton									*	*			*	.10	.13	*	.54									*	1.28					3.06	
Hammononton	.14	.04	.18	.02				*	*	*	.61		*	.10	.13	*	.30								.02	*	1.28						3.06
Tuckerton	.21	.15	*	.00				*	1.40				.15			*	.30									*	1.50					3.80	
Friesburg	.16	.10	.25	T.				.18	.30	.17		.25	*	.15		.52								.02		.60	.75					3.45	
Vineland	.38	.12	.09	.14				.02	.52	.13	.03		.08	.02	.17	.61										.46	.29					3.06	
Canton	*	.32	.27	.11				.43		.41		.25	.22			.55							T.	T.		*	2.98					5.54	
Bridgeton	.20	.30	.26					.17	.52	.07	.06		.12	.20		.50										*	2.00					4.42	
Pleasantville	.10	.05	.15	.06				.05	.93	.07		.11				.05									.20	.80	.25	.04				3.22	
Northfield	.28	.07	.12	.04	T.			.01	1.41	.02	.03		.12		.08	*	.55								.88	.36	.42					4.39	
Port Norris	.20	.30			.28			.17		.26	.62		.24	.12	.20	T.	.53								T.	*	1.80					4.72	
Woodbine	.20	.08	.21		.10			.04	1.55	.37	.03		.23			.24									T.	.17	1.26	.08				†	
Cape May C. H.	.05	.06	.26	.02	.06			.07	2.00	.36	.30		.03	.04	.31	*	.68									*	1.46					5.70	
THE SEA COAST.																																	
Oceanic	.18	.03	.48	.09	.10				.83	.10			.09	*	.10	*	.43								.28		.20	1.29				4.20	
Long Branch	*	*	.35	T.					.58	.10	T.		T.		T.	*	.34							.27		*	.48					2.12	
Asbury Park	.09	.10	.22	.04		.01			.70	.11			.07			.46										.02						1.82	
Atlantic City	.18	.05	.20	.02				.12	1.02	.06	.01		.05	.05	.01	.27	.01							T.	.18	.10	.15	.01				2.49	
Cape May City																																	

† Precipitation measured in the morning.

\* Incomplete.















